THE IMPACT OF COMPLEX COMPENSATION SYSTEMS: A VALIDITY STUDY OF THE PERCEPTIONS OF PAY-FOR-PERFORMANCE PLANS IN MULTI-PLAN ENVIRONMENTS

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Sanghee Park

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THE IMPACT OF COMPLEX COMPENSATION SYSTEMS: A VALIDITY STUDY OF THE PERCEPTIONS OF PAY-FOR-PERFORMANCE PLANS IN MULTI-PLAN ENVIRONMENTS

Sanghee Park, Ph. D.

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ABSTRACT

Pay-for-performance (PFP) is a compensation system that has been one of the most widespread compensation tools for motivating employees. Compensation researchers have long discussed the mixed results regarding the effectiveness of PFP plans. This dissertation focuses on the two major factors of why PFP research has yielded mixed evidence regarding the effectiveness of PFP plans – (1) individual feelings of various aspects of PFPs have not been fully captured, and (2) the complexity of the current PFP environments has not been clearly recognized. This dissertation has developed and validated a multi-dimensional measure of individual PFP perceptions in complex pay system environments. Using individual attitudinal data from diverse organizations through an on-line survey, this dissertation identifies three dimensions associated with PFP plans, and develops a measure of PFP perceptions (PFP Perceptions Questionnaire: PPQ) using items in multiple dimensions. It investigates individual feelings and reactions to individuals' multiple PFPs. The results show that individuals form complex conceptualizations of each PFP when they are covered by multiple PFP plans. The validation tests support the distinct perceptions of instrumentality, expectancy, and valence as being critical dimensions of the individuals' PFP perceptions, with evidence of construct validity, convergent validity, discriminant validity, and criterion-related validity.

BIOGRAPHICAL SKETCH

Sanghee Park was born and raised in Seoul, Korea. In 2000, she received her Bachelor of Arts in Psychology at Duksung Women's University in Seoul. Upon graduating, she wanted to find a way to incorporate her studies in Psychology to the Hospitality and Tourism industry. Sanghee came to the United States and attended the William F. Harrah College of Hotel Administration at the University of Nevada, Las Vegas (UNLV). She graduated from UNLV in 2002, acquiring her second Bachelor Degree in Hotel Administration, with honors. After graduating from UNLV, she returned to Korea, where she was employed by the JW Marriott Hotel Seoul and Burberry Korea for three and half years. With the knowledge that she had accumulated through her employment, she set her goals towards acquiring her Master degree and PhD.

Sanghee returned to the United States to continue her education in 2006. She began her doctoral studies at Cornell University in the Fall 2008. She earned her Master degree from Cornell in August 2008.

To my parents, Young-Kern Park and Dong-Joo Kim, who have always been my inspiration in work and life.

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CHAPTER I

INTRODUCTION

Pay-for-performance (PFP) plans have long been discussed as being powerful drivers of employee job performance and other positive outcomes. Such discussions have been based on the key assumption that tying financial rewards to employee performance improves employee motivation (Evans, 1970; Gerhart, Rynes, & Fulmer, 2009; Heneman, 1984; Park & Sturman, 2012; Schaubroeck, Shaw, Duffy, & Mitra, 2008). Yet while there is a vast literature on PFP (for reviews, see Gerhart et al., 2009; Guthrie, 2007; Rynes, Gerhart, & Parks, 2005), the majority of work in this area has considered or examined only one PFP plan at a time. While a few studies have considered multiple PFP plans simultaneously (i.e., Kahn & Sherer, 1990; Nyberg, Pieper, & Trevor, in press; Park & Sturman, 2012, 2013; Salamin & Hom, 2005), these studies have not considered the potential complex effects of PFP on employee perceptions and motivation in multi-PFP plan environments. Modern pay systems often include a variety of PFP forms, but relatively little emphasis has been given to such plans as "holistic entities" (Gerhart et al., 2009, p.276). As a result, a critical theoretical gap has opened up - prior PFP research sheds little light on how employees perceive and react to their compensation systems with more than one PFP plan in place. The purpose of this paper is to extend PFP research to examine employees' attitudinal perceptions toward PFP systems in multifaceted environments, and to determine how these perceptions are related to various outcomes such as employee attitudes and behaviors.

Researchers have acknowledged that an important factor leading to variations in the effectiveness of PFP plans is how employees perceive and react to a PFP plan (Gerhart & Rynes, 2003; Schaubroeck et al., 2008). Prior PFP research has, however, captured the individual perceptions toward PFP systems problematically. First, by neglecting to consider an environment

of frequently changing pay practices and policies, prior PFP research has considered PFP perceptions too generally. That is, such research has, when investigating the effectiveness of any type of PFP plan, reflected PFPs from only one type of pay system. For example, the measure of PFP perceptions (Perry & Pearce, 1983), which is the most prevalent measure in prior PFP work, has only captured employee perceptions of one specific type of PFP plan – the merit pay plan. Other studies have just asked generally about "compensation plans" (e.g., Bhattacharya, Gibson, & Doty, 2005; Cadsby, Song, & Tapon, 2007), "reward" (e.g., Eisenberger, Rhoades, & Cameron, 1999; Kwong & Wong, in press; Morgeson, Johnson, Campion, Medsker, & Mumford, 2006), "pay" (e.g., Toh, Morgeson, & Campion, 2008; Wright, Gardner, Moynihan, & Allen, 2005) or "incentive pay" (e.g., Banker, Lee, Potter, & Srinivasan, 1996, 2001). Thus, prior PFP research has not effectively distinguished between the specific forms and functionalities of various forms of PFP plans and therefore failed to capture the relative effects of the different types of PFPs (cf., Nyberg et al., in press; Park & Sturman, 2013) or how such plans are perceived when offered as parts of a larger compensation system.

Second, PFP perceptions have been considered with a narrow scope. Compensation studies have primarily focused on only one key factor: the perceived connection between pay and performance. Thus, various other important aspects involved in multiple types of PFP plans have been ignored when measuring the effectiveness of PFP. These include how much and how differently individuals value their multiple pay forms and how confidently individuals feel they can improve their performance (often based on their previous performance history) with each pay form. This lack of consideration of more complex pay systems presents a theoretical gap for understanding how PFP systems work for both employers and employees. It also presents a practical gap for organizations needing to predict the sort of effects they should expect from their

multi-plan environments. Accordingly, this dissertation, by considering specific mechanisms and characteristics of PFP plans, will better theoretically and empirically articulate individual perceptions of the nature of the multiple PFP plans that are currently and popularly used in organizations.

This dissertation offers several contributions to the existing compensation literature. First, its main theoretical contribution is to provide more precise theory testing. Colquitt and Zapata-Phelan (2007) argued that testing theory is important because "some of the most intuitive theories introduced in the management literature wind up being unsupported by empirical research" (p. 1282) and therefore rank low in "scientific validity." The present study refines previous views for a more comprehensive picture of current PFP systems by creating and testing the measures of individual perceptions of the multiple PFP plans. To correspond to current theories and compensation systems, the measures of current multiple PFP plans should be more complex than those currently used. Thus, this study will clarify the link between extant compensation-related motivation theories and the measures that can be used more accurately. Such clarification should advance the current understanding of why PFP research has yielded mixed evidence regarding the effectiveness of PFP, and of how we can avoid "sound-bite conclusions (e.g., PFP does not exist; PFP does or does not motivate) that have been rarely valid" (Gerhart et al., 2009, p.252).

Second, this dissertation develops and validates a measure of an important construct: individual perceptions of PFP systems. Although measuring individual perceptions of PFP is critically important to precisely test motivational theories that have been used to explore the motivational effects of multiple PFP plans, insufficient attention has been devoted to these perceptions. Consequently, in the compensation literature, the employee PFP perceptions

construct has received less attention than it deserves. The current study sheds lights on the underlying attitudinal perceptions related to PFP plans.

A third contribution, conceptually and empirically, of this study is to the field of HR and OB. The contribution is brought about by using this new valid measure of PFP perceptions (PFP perceptions questionnaire; PPQ) to assess the influence of compensation systems on employee attitudes and behaviors. The literature on compensation suggests that compensation systems play significant roles in employment relationships, including those concerning factors of trust, organizational commitment, and organizational culture (e.g., Bloom, 2004); however, these relationships have yet to be directly and purposely tested with empirical studies (cf. Deckop, Mangel, & Cirka, 1999; Schaubroeck et al., 2008). The criterion-related validity study that this dissertation provides opens the door to exploring relationships that have not been investigated. Fourth and finally, this study explains how and why multiple PFPs influence employees across organizational pay policies and systems, thus providing practical implications for organizations on how to design their compensation systems.

This dissertation is organized as follows. Chapter 2 provides an overview of modern PFP plans in multi-plan environments. Chapter 3 reviews the traditional and contemporary motivational theories that form the basis for PFP plans and PFP perceptions, as well as previous empirical research that has predicted the effects of multiple PFP plans. This chapter describes theoretical gaps in need of being filled by compensation research. Chapter 4 defines the key construct – individual perceptions of PFP plans. This chapter provides a basis for the rationale of the construct validation test. Chapter 5 presents a closer look at the individual perceptions of multiple PFPs with comparisons within and across PFPs, and Chapter 6 presents criterion-related validity for PFP perceptions. The paper then describes the data and methods for testing both

construct validity and criterion-related validity for PFP perceptions in Chapter 7. Chapter 8 provides the results. Chapter 9 provides an overall discussion, the limitations, and suggestions for future research.

CHAPTER II

AN OVERVIEW OF PAY-FOR-PERFORMANCE PLANS

Construct validation research requires a definition of the focal construct and an exploration of its nomological network by looking at relationships between the construct of interest and other constructs that should theoretically be associated with it (Cronbach & Meehl, 1955; Hinkin, 1995; Schwab, 1980, 2005; Sturman & Short, 2000; Westen & Resenthal, 2003). In this chapter, before defining the construct of interest (PFP perceptions), I begin with the definition of PFP plans and provide an overview of current PFP plans.

2.1. Overview of Pay-for-Performance (PFP) Plans

A common component of compensation systems, PFP plans are referred to as "pay that varies with some measure of individual or organizational performance" (Milkovich, Newman, & Gerhart, 2011, p.661). Evans (1970) explained that, historically, PFP is the outcome of the Protestant Reformation of the sixteenth and seventeenth centuries. The Protestant influence constituted the core concept of work and rewards (capitalism), that pay should be associated with individual performance. Organizations developed various pay systems for incorporating this philosophy into the corporate environment (Evans, 1970).

Researchers have repeatedly found that pay is a strong motivator that can lead to increased individual achievements (Evans, 1970; Gerhart et al., 2009; Heneman, 1984; Lawler, 1971). The main premise of PFP plans is that performance-based pay has a greater impact on employee motivation when pay is more strongly related to either employee or organization performance (e.g., Bartol & Locke, 2000; Milkovich et al., 2005). Because PFP plans tie pay to employee performance, they can both motivate individuals to achieve or sustain greater performance levels (incentive effects) and help organizations attract and retain their high

performers (sorting effects) (Gerhart et al., 2009).

Organizations often use multiple types of PFP plans through a combination of individual-based rewards (e.g., merit pay, lump-sum bonuses, and individual incentives) and/or group-based rewards (gain-sharing, profit sharing) (Gerhart et al., 2009; Milkovich et al., 2011; Park & Sturman, 2012). Each reward has specific forms (by definition) and functionalities (certain characteristics) (Park & Sturman, 2012, 2013). For example, PFP plans come in a variety of forms. Its form can be a permanent reward (merit pay), a one-time payment (lump-sum bonuses), or delayed payment (long-term incentives). In other words, merit pay permanently increases individuals' base salaries based on their individual performance. Lump-sum bonuses, which do not increase employees' base salaries, are one-time cash payments based on individual performance. Long-term incentives are also one-time payments based on both individual performance and/or organizational performance. Because of vesting schedules and other restrictions, payments from long-term incentives are usually delayed.

Previous compensation research has suggested that the most important factor for PFP plans is "how closely organizations link employee performance and pay" (Heneman, 1973; Kahn & Sherer, 1990; Schwab & Olson, 1990, p. 237S). Yet, the different functionalities of PFP plans reflect the strength of the relationship between performance and rewards and reward size that can vary within and across plan practices of organizations (Park & Sturman, 2013). Park and Sturman (2013) argued that the name of a PFP plan does not include information for the degree to which pay and performance are linked and the amount of each reward. The complexity in differentiating forms and functionalities of PFP plans explains widely disparate results regarding the effectiveness of PFP plans under the same name (e.g., different effects in merit pay, $r = .30$: Trevor, Gerhart, & Boudreau, 1997; $r = .05$: Salamin & Hom, 2005; different effects in bonuses,

r = .42: Salamin & Hom, 2005, r = .15: Mizruchi, Stearns, & Fleischer, 2011).

PFP plans are now nearly ubiquitous across organizations (Gerhart et al., 2009; Park & Sturman, 2012, 2013; Worldatwork salary budget survey, 2013). Given the prevalence and impact of multiple PFP plans with the various forms and functionalities, focusing on only a single PFP limits the understanding of the effectiveness of current compensation systems. This is particularly true when it comes to understanding how individuals perceive their PFP plans when in multiple PFPs environments or how those PFP plans motivate individuals. Measuring employees' perceptions of each type of PFP plan and the effectiveness of PFP plans in complex environments should be different from and more dynamic than the traditional simplistic compensation system.

2.2. The Use of PFP Plans

PFP plans continue to grow and spread. A recent compensation survey reported that approximately 81% to 91% of eligible US employees received PFP plans in 2012 (Worldatwork salary budget survey, 2013). Another recent compensation survey showed that approximately 90 percent of companies plan to continue offering performance-based rewards to their employees in the coming year (Miller, 2012).

These surveys also projected that the pay differences between high performers and middle and poor performers would increase more (e.g., a 152% difference: 4.1% average pay increase for high performers, 2.7% for middle performers) in 2014. With fluctuating economic conditions, recent trends in compensation show that organizations have focused more on PFP systems that recognize and differentiate between high and low performers (Cohen, 2011; Hansen, 2011). To keep their salary budget relatively tight and to spend it more wisely, organizations are paying more attention to high performers (Worldatwork salary budget survey,

2013). The trend of a relatively lower salary increase of 2.5% but increasing various types of PFP schemes leads to larger pay differences between high and low performers (TowersWatson, 2010; Worldatwork salary budget survey, 2011).

For financial rewards at the individual level, merit pay is the most common type of PFP plan (Gerhart et al., 2009; Park & Sturman, 2012; Schwab & Olson, 1990). Annual bonuses (lump-sum bonuses) also are commonly used for individual rewards (Gerhart et al., 2009; Kahn & Sherer, 1990; Park & Sturman, 2012, 2013). Types of bonuses can be implemented in an organization based on the level of the performance metric (e.g., individual, team, division, department, or organization). Long-term incentives, including stock grants and stock options, are group-level PFP plans that reward employees based on organizational level outcomes (i.e., firm stock price performance) (Gerhart et al., 2009). Although stock option plans have previously been regarded as financial rewards exclusively for executives, roughly 13 million US employees currently participate in employee stock ownership plans (ESOPs), and 9 million own company stock options (National Council on Employee Ownership, 2012). As such, recent pay surveys continually report that many firms have adopted various types of PFPs and employees are covered by the multiple PFPs simultaneously (Park & Sturman, 2013; WorldatWork, 2012). These current multiple pay practices warrant attention for the understudied area of the effectiveness of PFP in multiple PFP plan environments and the individual perceptions that form in multiple PFP environments.

2.3. Empirical Evidence of PFP Plans

To date, there have been four main streams of empirical research on PFP plans. The first has explored the effectiveness of PFP plans on individual job performance by comparing employee job performance before and after implementing PFP plans (e.g., Banker et al., 1996,

2001; Lazear, 2000; Pearce, Stevenson & Perry, 1985). This was done mostly in the 1980s and 1990s when a variety of forms of PFP plans emerged. The second stream explored the actual link between employees' pay and performance from an economic perspective. Such studies have measured, through methodological means (e.g., Gomez-Mejia & Balkin, 1989), whether or not organizations accurately reflect "the economic value contributed to the firm by a worker" (Bloom, 2004, p.149). The third stream has explored the effectiveness of PFP plans on intrinsic versus extrinsic motivation (e.g., Eisenberger & Cameron, 1996; Eisenberger et al., 1999; Jenkins, Mitra, Gupta, & Shaw, 1998). Finally, the fourth explored organizational outcomes associated with PFP perceptions, such as pay satisfaction, job satisfaction, OCB, and turnover intentions (e.g., Deckop et al., 1999; Gupta, 1980; Heneman, Greenberger, & Strasser, 1988; Miceli, Jung, Near, & Greenberger, 1991; Schaubroeck et al., 2008). Hence, a number of previous empirical studies on compensation have focused on determining whether (1) PFP plans are more effective concerning organizational/individual performance than previous pay systems (e.g., seniority-based pay systems) when an organization changes its pay practices (e.g., Banker et al., 1996, 2001; Pearce et al., 1985; Sturman, Trevor, Boudreau, & Gerhart, 2003), (2) organizations implemented their PFP correctly and clearly (e.g., Bloom, 2004; Gomez-Mejia & Balkin, 1989), (3) PFP positively or negatively influences intrinsic task interest, creativity or self-determination (e.g., Eisenberger & Cameron, 1996; Eisenberger et al., 1999), (4) a single PFP plan (such as merit pay or a bonus plan) increases outcomes (e.g., pay satisfaction) indirectly through pay reactions (e.g., Brown & Huber, 1992; Miceli et al., 1991; Schaubroeck et al., 2008). Individual perceptions related to PFP have been used to assess employees' attitudinal reactions such as pay satisfaction, pay raise satisfaction, and turnover intentions (e.g., Gupta, 1980; Schaubroeck et al., 2008). Each stream has made important contributions to improving our

understanding of PFP plans and to filling gaps between compensation research and practice.

Many studies on PFP have focused on the effectiveness of PFP plans by comparing outcomes before and after the new PFP plans have been implemented. These studies showed that PFP plans had a positive relationship with employee job performance when the PFP pay system was compared to the prior pay systems (e.g., seniority pay system, hourly wage) (Banker et al., 1996, 2001; Jenkins et al., 1998; Lazear, 2000; Pekkarinen & Riddell, 2008; Peterson & Luthans, 2006). Some studies also indicated that in addition to having incentive effects (i.e., an influence on employee motivation), PFP plans also have sorting effects (i.e., an influence on employee voluntary turnover) (e.g., Cadsby et al., 2007; Lazear, 2000; Park & Sturman, 2013). For example, Lazear (2000) found that a switch from hourly wages to a piece-rate pay system led one company to a 44 percent increase in productivity. He showed that both incentive effects (which motivated average workers to make extra efforts) and sorting effects (which attract more talented and ambitious workers in the hiring process and induce less productive workers to quit) lead to gains in productivity.

There have been some studies that show negative effects of PFP plans on outcomes. Beer and Cannon (2004) conducted a case study that looked at the costs and benefits of the implementation of PFP plans. The study was conducted in the early 1990s on-site at Hewlett-Packard, at which point the company attempted to implement 1) a merit pay based on individual performance, 2) a profit-sharing system for all employees, 3) a bonus system for employees but not executives, 4) stock options for all levels of employees, and 5) sales incentives based on individual and team performance. At Hewlett-Packard, managers played a significant role in determining and maintaining a clear link between pay and performance. The company implemented different types of PFP plans, including cash incentives, skill-based pay, team

bonuses, and gain sharing at five sites in different locations. The findings showed that the pay systems were not effective at motivating their employees. In fact, the systems caused a lot of unexpected outcomes such as distrust, lower commitment, and lower performance. The authors argued that the rewards system ruined the "high-commitment cultures that typically do not rely on individual and group PFP systems to motivate instrumentally, though they use money to recognize performance" (Beer & Cannon, 2004; p.16). As a result, the company accepted their managers' decision that the PFP plans that had been implemented should be discontinued because the costs outweighed the benefits. The authors concluded that the PFP systems that the company had implemented were "unrealistically optimistic about what can be accomplished…" (p.15). The study showed an important example of how PFP plans can have unintended consequences within a company. Although the case at first seemed to indicate that PFP plans were ineffective, those results actually provided strong evidence that PFP plans should be implemented in the right way. That is, PFP plans should have a strong link between pay and performance and should be based on accurate performance ratings. In HP's case, the company admitted that it was not very clear on whether the outcomes of employee performance came from the PFP rewards or some external factors. A study by Pearce et al. (1985) showed a similar result to that described by Beer and Cannon (2004). In the organization studied by Pearce and colleagues (1985), managers did not trust the newly implemented PFP program. The managers believed that the company would not pay them based on their performance but rather use the pay system for a political purpose. As a result, managerial performance did not improve after the merit pay system was implemented.

A review of the literature on employee motivation and PFP plans reveals that compensation researchers have made conflicting arguments. While proponents of PFP plans

argued that such plans increased employees' extrinsic motivation (e.g., Eisenberger et al., 1999; Jenkins et al., 1998), opponents of PFP plans argued that such plans decreases employees' intrinsic motivation (e.g., Deci & Ryan, 1985; Eisenberger & Cameron, 1996; Pfeffer, 1988). They claimed that financial incentives hindered employees' intrinsic motivation, which comes from internal sources. That is, in the external environment, employees are more likely to perform to meet external demands, reduce self-determination, and intrinsic motivation. Consequently, these may cause unintended outcomes including individuals' impaired performance, a limit on creativity and innovation, the encouraging of unethical behavior, and short-term thinking (Deci & Ryan, 1985; Jenkins et al., 1998).

In sum, the debate over the effectiveness of PFP plans has been vigorous and frequent. In general, previous empirical evidence of PFP suggests that it has a positive impact on one's motivation to exert more efforts, leading to better outcomes (e.g., Eisenberger & Cameron, 1996; Eisenberger et al., 1999), but it has certainly variability (Gerhart et al., 2009) and can have unanticipated consequences (e.g., Kerr, 1975). Differences in forms and functionalities of multiple PFP plans and thus how individuals perceive those different plans, help explain this variability.

2.4. The Need for a More Precise Measure of PFP Perceptions

Over 40 years ago, Lawler noted that *"By measuring only costs and not the returns on money spent for pay, organizations are falling into the trap of measuring those things which are easily measured and ignoring important factors which are more difficult to measure. Without accurate assessment of what a pay system buys, it is impossible to talk intelligently about which system is best"* (1971, p.12). Although he clearly articulated a need for improved measurement of the effectiveness of pay systems that can capture important and various aspects, such as

individual perceptions of pay systems, we still do not have a well-developed tool with which to study and understand it.

Recently, Nyberg (2010) stated that the link between pay and performance may not be perfectly aligned with the link between pay and performance that employees perceive. In other words, the perceived link between pay and performance actually leads to their performance, behaviors, and attitudes. This is the case even though the strong link between pay and performance that organizations intend to build has always been one of the most important factors to lead employees. Weathington and Weathington (2011) reviewed the motivational theoretical and practical framework that earlier compensation practices used based on traditional motivational theories. The authors concluded that employee perceptions of PFP plans are much more important than organizational intentions. PFP plans fail in organizations where employees perceive that they are not receiving their fair share of financial rewards regardless of whether an organization actually connects pay with performance. Thus, they argued that if a company is to have an efficient and valuable financial reward system, it is critical to pay close attention to individual perceptions of PFP plans.

Indeed, for many years, there has been plenty of evidence that "many organizations do not do a very good job of tying pay to performance" although those organizations claim that their pay systems are based on employee performance (Baker, Jensen & Murphy, 1988, p.595; O'Byrne & Young, 2006). Without correctly connecting the actual link and the perceived link of PFP plans, it would be very difficult for organizations to accurately measure the true effectiveness of PFP plans and expect significant returns on their investment. From an organizational perspective, given that employee compensation is often the largest single cost (Gerhart et al., 2009), it is important to learn not only whether an organization actually links

financial rewards to employee performance but also how employees actually perceive and react to their PFP systems (both overall and to its elements). Indeed, it is this perception that influences employees' performance and productivity.

The difference between PFP plans and other prior pay systems (e.g., seniority-based pay) is based on the idea that "the probability of performance leading to a money outcome is greater than zero" (Perry & Pearce, 1983, p. 231). In other words, based on the motivational theoretical framework that previous compensation research has built, organizations expect higher employee performance by motivating individuals and investing money into various types of PFP plans. Several empirical studies have been performed examining the link between employee perceptions on PFP plans and various outcomes (e.g., pay satisfaction, reactions to pay, pay system fairness) by using previous measures of PFP perceptions (Heneman et al., 1988; Miceli et al., 1991; Perry & Pearce, 1983). This research, however, has often failed to accurately measure the effect of PFP plans because of an insufficient definition of "PFP perceptions." This is because either they measured PFP perceptions by using a single-item measure or they did not differentiate between PFP plans.

Over 20 years ago, Heneman et al. (1988) indicated that "empirical studies have relied upon a one-item measure of pay for performance and consequently, the reliability of PFP measures is uncertain" (p. 747). In addition to potential unreliability, a single item measure cannot possibly capture the sort of complex multifaceted cognitions that motivation theory suggests that are present in PFP environments. As such, until recently, compensation research has regularly cited the Perry and Pearce's (1983) measure of PFP perceptions. Most studies, however, adapted some survey questions from only one dimension from the Perry and Pearce's (1983) measure even though their measure is a multi-dimensional and multi-item measure. Note

that the Perry and Pearce (1983) study never defined the PFP perceptions construct. Furthermore, compounding all of these issues, those studies did not match their own definition of the construct and the Perry and Pearce's (1983) measure. This is problematic because research without assessing proper construct validation can result in "dysfunctional consequences" (Schwab, 1980, p.4). Researchers continually emphasize the need for construct validation to facilitate the development and testing of a theory (e.g., Hinkin, 1995). Compensation research, however, has lagged in improving valid measurements of this important construct. The lack of a valid and reliable instrument to measure PFP perceptions may have hindered both theoretical and empirical investigations.

Even though a number of forms PFP plans emerged in the 1980s, the focus of attention in compensation research has bypassed measures of employee perceptions of the different pay plans. As a result, employees' perceptions of multiple types of PFP plans (cf. Sturman & Short, 2000) elude current measures of PFP perceptions (e.g., Heneman et al., 1988; Lawler, 1981; Perry & Pearce, 1983) and other related measures, such as the Pay Satisfaction Questionnaire PSQ: Heneman & Schwab, 1985), which was established for early pay systems. Prior research on compensation has only considered one or two types of performance-based pay plans at a time (cf., Kahn & Sherer, 1990; Schwab & Olson, 1990).

More recently, Park and Sturman (2012, 2013) stated that the most important factor that we have failed to capture is not the types of different PFP plans per se, but the specific characteristics of the various pay plans. Most organizations have simultaneously implemented various types of PFP plans that have different characteristics. These organizations are often faced with the tough question of how employees will react to such plans. To help answer that question, researchers should consider the simultaneous motivational effects of different PFP plans. When

individuals form their perceptions of multiple PFPs, they may consider their subjective perceptions based on not only the link made between pay and performance by organizations and the objective amount of rewards, but also subjective values of rewards and the possibility that they would actually receive the rewards among multiple PFPs. A single dimension–the link between pay and performance–cannot capture the perceived link between pay and performance in multiple PFP environments.

CHAPTER III

AN OVERVIEW OF MOTIVATIONAL THEORIES AND RELEVANT EMPIRICAL STUDIES OF MULTIPLE PFP PLANS FOR UNDERSTANDING CURRENT PFP PLANS

3.1. Traditional Motivation Theories

A number of motivational theories have been suggested to support the underlying mechanisms of PFP plans. Expectancy theory and reinforcement theory have been the basis of early conceptual models for PFP plans (Evan, 1970; Heneman, 1984) and remain an important theoretical perspective today (Bartol & Locke, 2000; Cadsby et al., 2007; Fong & Tosi, 2007; Part & Sturman, 2012, 2013). Expectancy theory (Vroom, 1964) suggests that the motivational force in an individual is created by the interaction of three factors: expectancy, instrumentality, and valence. That is, individuals are motivated when they believe that their (extended) efforts will lead to a certain level of performance (expectancy), and that the performance will lead to a specific reward (instrumentality) that they value (valence). This theory has been useful in showing how pay plans are capable of encouraging, directing, and controlling employee behavior (Gerhart, Minkoff & Olsen, 1995). More importantly, the theory specifically speaks to how employees perceive rewards and what employees' beliefs are regarding effort, performance, and outcomes (Ilgen, Nebeker & Pritchard, 1981). Above all, expectancy theory focuses on how reward can shape employees' behaviors (Gerhart et al., 1995). It relies primarily on financial rewards as extrinsic motivators to explain causes of behaviors shown in the workplace (Leonard, Beauvais & Scholl, 1999). Financial rewards are viewed as inducing motivational states that stimulate behaviors (Issac, Zerbe, & Pitt, 2001). In contrast, intrinsic motivators induce behaviors that result from internal forces, such as enjoyment of the work itself. The theory

emphasizes that financial rewards motivate employees because they increase employees' valence (Bonner & Sprinkle, 2002). Financial rewards also increase employees' expectancy by linking effort, performance, and pay (Bonner & Sprinkle, 2002). As a result, financial rewards increase employees' effort, and this increased effort is supposed to lead to increases in performance (Bonner & Sprinkle, 2002; Lawler, 1971).

Reinforcement theory (Skinner, 1953) proposes that pay is a positive reinforcement. That is, rewards contingent on desired behaviors can lead to a likelihood of the behaviors being repeated ("Thorndike's Law of Effect"; Gerhart et al., 1995). The main idea of the theory is that individuals learn how to behave in desirable ways in an environment over time by repeating stimulus-response connections (Bergmann & Scarpello, 2002). Individuals learn to select the appropriate responses based on the consequences of previous selections (positive reinforcement). The theory posits that financial rewards can be used in an organization as either positive or negative reinforcement. It provides the basis for understanding the PFP link. The theory demonstrates that organizations can motivate employees for higher performance when they use pay plans contingent on performance consistently and in a timely manner. The theory shows how pay plans can encourage and control employee behaviors.

Other motivational theories that are relevant to PFP plans have also been proposed. Agency theory (Eisenhardt, 1989) explains the agency relationship between a principal who delegates work and an agent who performs the work. Because the two parties have different interests and goals, they tend to behave in different ways. In addition, the two parties often have different preferences toward risk, and therefore, they tend to show different actions when risk-sharing problems arise. According to the theory, it is hard and expensive for the principal to monitor the work of the agent (who is most likely to be risk-averse and self-interested). Agency

theory describes how organizations determine pay and design compensation systems to align an agent's interests and goals with a principal's interests and objectives through types of behavioral monitoring or outcome-based rewards (e.g., stock options, profit sharing, gain sharing) (Rynes & Bono, 2000). In that way, organizations can have enough information for their employees (to monitor what they are actually doing) and employees can receive monetary rewards by aligning their interests and goals toward the owners' interests.

The main premise of equity theory (Adam, 1965) is that employees compare their work outcomes to work inputs to those of referent others. If employees find that they are not rewarded enough based on their efforts and performance compared to others, they make less effort to perform their work in order to perceive equitability. Equity theory explains how the two constructs - pay satisfaction and employees' perceptions of fairness - are related in the allocation of rewards (Bartol & Locke, 2000). Tournament theory (Lazear, 1998) posits that employees are motivated to receive sizable rewards by competing with others for promotions (Bartol & Locke, 2000). The larger the pay dispersion is between levels of positions, the greater the efforts employees exert to get a promotion. The assumptions that employees have enough self-efficacy and that they have high valence for money underlie this theory, which focuses on high performers and promotes a high level of pay dispersion.

Prospect theory (Kahneman & Tversky, 1979) proposes that individuals perceive their losses of outcomes more negatively than gains in outcomes. This theory has been used to explain reactions of employees to the at-risk plans and risk-sharing issues in agency theory (Schaubroeck et al., 2008). Because most individuals are risk-averse, employees feel threatened and anxious about the possibility of losing their pay when compensation systems change to a PFP system. Individuals are motivated more to avoid a loss than to achieve a gain. The results from several

studies show that pay-for-performance compensation systems sometimes brought negative outcomes (i.e., high voluntary turnover, job dissatisfaction, lack of organizational commitment) from employees (see Brown & Huber, 1992). Such results can be explained by prospect theory. This theory suggests how organizations can design compensation systems and it helps to predict employees' reactions to rewards (Schaubroeck et al., 2008).

Recent research has applied prospect theory to explain individual decision-making in complex PFP environments (Chen, Ployhart, Thomas, Anderson & Bliese, 2011; Nyberg et al., in press). Under uncertainty, individuals make their choices and decisions by seeking either gains or losses based on their own frame of reference ("internal standards") and subjective value function ("positive or negative discrepancies with one's reference point") (Chen et al., 2011). Nyberg et al. (in press) also explained, drawing on prospect theory, why individuals are more motivated to work harder for bonuses than for merit pay. They argued that people tend to believe that bonuses are "loss" because they must re-earn bonuses the following year. Merit pay, on the other hand, is perceived as an "entitlement" because merit pay that an individual earns is henceforth perceived continuously, regardless of future performance.

3.2. Contemporary Theories of Motivation

A recent trend in scholarly research is that of researchers providing new insights by adapting and combining various theories across literatures (e.g., psychology, sociology and economics). These insights shed light on the nature and function of topics of interest that previous theory and research have not adequately explained. The primary reason for that is because "many traditional paradigms are inadequate for discussing or exploring many realistic and complex situations….no single theory can adequately explain the observed phenomena" (Steel & Konig, 2006, p. 890). For example, Chen et al. (2011) provided a new theoretical

framework to explain job satisfaction change by integrating prospect theory (Kahneman & Tversky, 1984), within-person spirals theory (Hsee & Abelson, 1991; Lindsley, Brass, & Thomas, 1995), sense-making theory (Louis, 1980), and conservation of resources theory (Hobfoll, 1989). As such, Steel and Konig (2006) offered Temporal Motivational Theory as integrating four cross-disciplinary motivational theories of decision making and motivation. In addition to considering time as a "critical component of choice or motivated behavior" (p. 890), they incorporated picoeconomics (hyperbolic discounting), need theory, in addition to the two traditional theories—expectancy theory and prospect theory (CPT: cumulative prospect theory).

Picoeconomics ("hyperbolic discounting") refers to "a theory that helps to account for choice of behavior over time" (p. 892). The underlying assumption of this theory is that when individuals need to choose some behaviors that lead to rewards they are more likely to value immediate but smaller rewards than distant ones; indeed, people tend to undervalue future events. But, once time and goals are involved, the behavior patterns of individuals can change. This theory predicts the effects of temporal discounting based on a mathematical equation having four components: utility ("preference for a course of action"), amount ("the amount of reward that is received on payout"), whether or not rewards are immediate or delayed, and individuals' sensitivity to delay. In the equation, the two components of expectancy theory–expectancy and valence–are used to explain individuals' subjective perceptions. In other words, the objective amount of rewards can, depending on individual differences, be interpreted as the perceived attractiveness of the rewards (valence). In the theory, rate ("the frequency that leads to rewards") can be interpreted as expectancy, which is "the probability of acquiring the expected outcome." The main concept of prospect theory is also incorporated into picoeconomics. That is,

individuals estimate gain or loss when they think about the possibility of their future multiple outcomes.

Finally, need theory (e.g., Dollard & Miller, 1950) is used to explain what motivates individuals to take action. According to the theory, need strength (utility) and long-term considerations (delayed) are the primary driving force of individual behaviors. The needs for achievement, affiliation, and power drive people to take action. With the incorporation of the four motivational theories across fields, temporal motivational theory explains that "motivation can be understood by the effects of expectancy and value, weakened by delay, with differences for rewards and losses" (p. 897).

Unlike previous PFP-related motivational theories, temporal motivational theory considers individual differences and the effects of time in motivation and decision-making processes, particularly in complex situations. Thus, temporal motivational theory is very useful in explaining how individuals actually perceive and behave in multi PFP plan environments. In such environments, uncertainty exists and choices of motivational behaviors based on decision making is required over time. The different forms and characteristics of the different PFP plans are also combined in complex PFP environments.

Temporal motivational theory considers utility, amount, delay, expectancy, valence, and time. Thus, temporal motivational theory is a very appropriate theory to fill theoretical gaps to which researchers have devoted little attention. This contemporary theory clearly shows that there are critical factors such as expectancy and valence that explain individuals' subjective perceptions of PFP plans and that these should be measured when they are provided multiple options (i.e., PFP plans).

3.3. Summary

Multiple traditional motivational theories have established a theoretical framework for understanding an overall PFP system in organizations. They have also been used to explain the role of the PFP system in motivation. By considering various aspects of individual perceptions of pay, these various motivational theories have led us to an understanding of how employee behaviors can be energized, directed, and controlled by pay plans (Gerhart et al., 1995). However, researchers have failed to consider complete PFP environments and the current measure of PFP perceptions has failed to fully capture the entire set of concepts demanded by these motivation theories. Such failures leave us not knowing clearly how individuals perceive either a single or multiple PFP plan(s), particularly when they face multifaceted environments. Researchers, equipped with the more advanced theories, have progressed in unraveling the mechanisms of more complex pay practices. Theoretically and practically, contemporary theories of motivation provide grounds for a better understanding of how people perceive PFP when in multiple PFP environments.

3.4. Three Relevant Empirical Studies which Consider Multiple PFP Plans

Based on the compensation-related motivational theories addressed above, compensation research has certainly made key advances in the understanding and development of PFP plans. To summarize, in the understanding of PFP in organizations the central issues have been (1) whether organizations link pay to performance correctly, and therefore, reflect their value well enough in their reward systems (Baker et al., 1988; Gerhart et al., 2009; O'Byrne & Young, 2006), and (2) the psychological aspects of PFP plans in employee motivation–whether employees perceive the financial rewards as motivating factors for performance (Jenkins et al., 1998; Lawler, 1971; Miceli et al, 1991). Until recently, few researchers have explored multiple PFP systems or developed frameworks for the construct of PFP perceptions. I have chosen three

studies that yielded theoretical and empirical insights about developing a means of understanding PFP perceptions. These are particularly apt for the context of multiple PFP environments, where a portfolio of PFP plans cover employees (see Table 1). Although theoretical approaches have advanced in recent work, much of the empirical work considering the multiple types of PFP plans has used methodological means to approximate the perceived link between pay and performance without measuring actual individual perceptions toward their PFP plans.

3.4.1. Contingent Pay and Managerial Performance (Kahn & Sherer, 1990)

Kahn and Sherer (1990) developed a conceptual model for assessing the effectiveness of multiple PFP systems on employee job performance. They then empirically examined the actual relationship between financial incentives (i.e., merit pay and lump-sum bonuses) and employee job performance by using a two-stage methodological procedure. This is one of the first studies showing more than one type of PFP plan assessed simultaneously (cf., Schwab & Olson, 1990). To capture differences in reward schedules, they estimated regression equations predicting rewards (in their case, merit percent and bonus percent) as a function of performance, control variables, and the interaction of performance with those control variables. They then used the first derivative of the results as a measure of each individual's PFP relationship. Specifically, the initial regression step predicted 1985 awards using 1984 data. They then used the computed derivative as a measurement of each individual's PFP relationship for each pay form to predict performance in 1985.

Kahn and Sherer (1990) showed that a bonus produced a significant effect on employees' future job performance, but merit pay failed to produce a positive effect. On its face, these results seem confusing, but as Park and Sturman (2013) describe, it can be explained by considering the characteristics of the studied pay plans. In the Kahn and Sherer (1990) study, the effect of

performance on merit pay was minimal. Their regression predicting merit raises had no significant effect associated with performance (main effect or interactions). In this study, therefore, the rewards from the merit pay plan were not actually strongly associated with job performance ratings. These concerns, though, are not completely generalizable to all implementations of merit pay. Rather, when viewed through the lens of expectancy theory, they suggest that merit pay was poorly implemented because it failed to generate instrumentality. It appears that in the company studied by Kahn and Sherer (1990), what was called a merit pay plan was not really a PFP plan (because there appeared to be no relationship between pay and performance). Hence, had expectancy theory been applied, it would have correctly predicted that, in their sample, Kahn and Sherer (1990) would see a positive effect for the bonus plan, but no effect for the so-called merit plan.

3.4.2. Relative Incentive and Sorting Effects of Multiple PFP Plans (Park & Sturman, 2013)

Park and Sturman (2013) found that the effects of multiple types of PFP plans on employee performance vary depending on the proposed company data investigated by different studies. The characteristics of PFP plans under the same name by definition (merit pay, bonuses, and stock option) can differ across organizational pay policies, pay structures, and pay practices. For example, the study by Schwab and Olson (1990) found that the merit pay system, which had a strong link between pay and performance in the created organizations in a simulation in the study, had a significantly more positive effect on employee performance than did a bonus system. However, Kahn and Sherer (1990) showed that the effects of performance on bonus pay were much higher than that of merit pay due to the weak link between pay and performance.

Although there is still some debate as to which type of PFP plan is more effective, Park and Sturman (2013) suggested that indeed measuring the specific characteristics of each PFP

plan is more critical than just looking at the form of the PFP plan. Their findings show that the different forms (i.e., merit pay increases base pay, bonuses are one-time pay, and stock options are delayed awards) and characteristics (i.e., functionality: the degree to which pay and performance are linked and the size of the rewards) cause different incentive effects and sorting effects on employee motivation. The study found that individuals are more likely to be motivated and to improve their performance with merit pay (which increases their base pay) than with bonuses and stock options. The findings showed that merit pay provides the strongest incentive and sorting effects. It is noteworthy that the link between previous performance and rewards was stronger for merit pay than for bonuses in the study. Thus, the study implied that compensation research should not merely take into consideration overall PFP plans, but should also specify the nature of the plan. The study modified Kahn and Sherer's (1990) two-stage procedure and applied it to measuring the relative effects of three types of PFP plans: merit pay, annual lump-sum bonus, and long-term incentives (stock option plans). Unfortunately, the study did not measure individuals' actual PFP perceptions.

3.4.3. Integrating Psychological and Economic Principles toward a Contingency Perspective (Nyberg, Pieper, & Trevor, In Press)

Drawing upon broad perspectives from economics (incentive intensity principle) and psychology (expectancy theory), Nyberg et al. (in press) developed a contingency-based conceptual model to examine the effectiveness of multiple PFP plans on individual job performance. In addition to a type (merit pay and bonus pay) and a time frame dimension (trend for both PFP plans), the researchers in their PFP effectiveness model considered four contextual factors (employee characteristics: tenure, job characteristics: sale and non-sales jobs, pay system characteristics: PFP types, and pay system experience: PFP trend). Unlike Park and Sturman's

(2013) study, which distinguished forms (PFP types) and functionalities (PFP characteristics) of multiple PFP plans, this study considered PFP types as pay system characteristics. The results showed that both merit pay and bonuses have positive effects on future employee performance. When the two different types of PFP plans were compared, the findings showed that the effect of bonus pay was stronger than that of merit pay. Note that the study looked only at the amount of rewards provided by an organization that Nyberg et al. (in press) studied when they differentiated types of PFPs. The underlying assumption of the study is that individuals within a company are under the same PFP relationship. In other words, although instrumentality ("the perceived link between performance and pay") has been considered the primary concept to discuss and determine the effectiveness of PFP plans, the study considered the link between performance and pay based only on "valence" (i.e., the amount of rewards). That is, the instrumentality that they measured in their study was not based on the actual strength between performance and pay for each type of PFP plans (i.e., what % of merit pay or bonus pay individuals would get when they increase certain levels of their performance). Their findings also showed that low tenure and positive pay trends (the trajectories, or slopes, of pay over time) lead to strong effectiveness of multiple PFP plans (merit pay and bonus pay) on employee future performance.

3.4.4. Summary

Although previous compensation theories have provided well-developed theoretical frameworks, previous compensation research that has measured the effectiveness of multiple PFP plans has used only methodological means to approximate the link between pay and performance. This has led to a disconnection between theory and empirical support for predictions in the compensation literature. To predict the true effects of current multiple PFP

plans, research should look into the underlying psychological mechanisms–how employees perceive their incentive systems–and to find out how such perceptions influence future employee performance when employees are covered by multiple PFP plans.

Table 1. Models of Multiple Pay-For-Performance Plans

Model	Dimensions	Theoretical Basis	Advances	Implications
Contingent Pay and Managerial Performance (Kahn & Sherer, 1991)	(1) The linkage between previous performance and financial rewards (2) The linkage between financial rewards and future performance	Expectancy theory Equity theory Efficiency wage theory	Considered different types of PFP plans – merit pay and bonuses. The relative effects of different types of PFP plans can differ.	A particular type of pay plan (Bonus) has a positive effect on employee performance (but merit pay does not).
Relative Incentive and Sorting Effects of Multiple PFP Plans (Park & Sturman, 2013)	(1) The linkage between previous performance and financial rewards (2) The linkage between financial rewards and future performance	Expectancy theory Equity theory Agency theory Tournament theory Prospect theory	Considered the relative motivation effects of multiple PFP plans – merit pay, bonuses, and stock options. Looked at the specific characteristics of each PFP plan.	Each type of PFP plan has unique characteristics. Organizations have to consider the link between pay and performance and the different characteristics, not only the name itself (pay-for-performance).
Integrating psychological and economic principles toward a contingency perspective (Nyberg et al., in press)	(1) Instrumentality (2) Incentive Intensity (3) Contextual factors: tenure, PFP trend, PFP types, and job types.	Expectancy theory Incentive intensity principle	Considered a broader perspective on the effect of multiple PFP plans on employee future performance.	In addition to pay policy and/or pay practices of an organization, there should be considered a variety of context factors including employee characteristics, employee experiences within the system, PFP system characteristics, and job characteristics.

CHAPTER IV

DEFINING PERCEPTIONS OF PAY-FOR-PERFORMANCE PLANS (PFP PERCEPTIONS)

In this chapter, I define a key construct–PFP perceptions–and conceptualize the psychological mechanism of PFP plans after I review a number of PFP perception definitions that have been used in previous studies. I elaborate on the theoretical dimensions of PFP perceptions underlying its measurement (PFP perceptions questionnaire: PPQ).

4.1. The Construct of Pay-For-Performance Perceptions

4.1.1. The Definition of PFP Perceptions from Previous Research

The construct of PFP perceptions has long been narrowly defined (See Table 2). For example, some studies that looked at the effects of employee PFP perceptions on organizational outcomes (e.g., Organizational Citizenship Behavior (OCB), work attitudes, pay-level satisfaction, and turnover intention) narrowly defined the PFP perception construct as "the degree to which employees perceived a strong link between their performance and pay" (Deckop et al., 1999, p. 423), "the degree to which employees perceived a strong link between their performance and pay outcomes" (Chiang & Birtch, 2010, p. 635), or "the perceived linkage between performance and pay" (Schaubroeck et al., 2008, p. 425). Nyberg (2010) also defined perceived pay for performance as "the employee's view of the degree that performance and pay are linked" (p.444). All of these definitions are deficient because they do not fully capture key aspects of individual subjective perceptions of PFP rewards that are predicted by theory.

Consistent with these narrow definitions, most previous PFP research has considered the construct as a uni-dimensional concept–the link between pay and performance–and adapted a single item measure of PFP perceptions. Yet, Heneman et al. (1988) argued that previous PFP

research was somewhat flawed because it treated PFP perceptions as a one-dimensional construct. Indeed, in their study, they identified PFP perceptions as a multidimensional construct and then examined the relationship between PFP perceptions and pay satisfaction. Their study used the survey items of Perry and Pearce (1983) as a multi-item measure of PFP perceptions (i.e., four-item scale: "If I perform especially well on my job, it is likely that I would get a pay raise"; "The pay raises that I receive on my job make me work harder"; "The best workers in the hospital get the highest pay raises"; and "High performance and low performers seem to get the same pay raises").

The most regularly used measure of PFP perceptions (Perry & Pearce, 1983) focused on motivational perceptions to measure PFP perceptions. As shown in Table 2, the three components of expectancy theory are reflected in each question. In a similar vein, Fong and Shaffer (2003) used a measure of PFP perceptions as a predictor of pay satisfaction when they tested how group incentive plans affected employee pay satisfaction. They also used the same measure of PFP perceptions (Heneman et al., 1988: adopted and modified from Perry & Pearce, 1983; Perry & Pearce, 1983;) that other compensation studies had used. However, they created two sub-scales, instrumentality perceptions and expectancy perceptions, which other studies (e.g., Ilgen et al., 1981) had used interchangeably when measuring "work motivation".

Erez and Isen (2002) examined the effect of positive affect on the relationship between individual motivation and their task performance. In their experimental studies, they adapted Ilgen et al.'s (1981) measures of work motivation. Drawing upon Vroom's (1964) expectancy theory, Ilgen et al. (1981) clearly defined the three components of expectancy theory (expectancy, instrumentality, and valence) and developed more stable and valid measures of work motivation. Erez and Isen (2002), after modifying the measure, applied the measures of

work motivation to their study related to pay. The study measured overall individual motivation, expectancy motivation perceptions ("the perceived link between effort and performance," p. 1058), instrumentality motivation perceptions ("the perceived link between performance and rewards," p. 1057), and valence perceptions ("the attractiveness of rewards"). For overall motivation, participants responded to the following proposition: "I would look forward to taking the same test in the future." For expectancy perceptions, participants were asked to indicate "their subjective probability that exerting a given level of effort would result in each level of performance" (p. 1059). Instrumentality perceptions were measured similarly to the expectancy measure but instrumentality perceptions related performance to the outcome. For valence perceptions, participants were asked to indicate the attractiveness of cash rewards. In sum, the study considered the three dimensions that have been used to measure work motivation in order to measure the relationship between the perceived dimensions and financial rewards.

Recently, Bamberger and Belogolovsky (2010) examined the impact of pay secrecy on individual task performance; they defined the instrumentality perceptions as "the perceived performance-outcome contingencies (p.989). Most recently, Belogolovsky and Bamberger (in press) used the same concept from their previous study (Bamberger & Belogolovsky, 2010) but called it pay-for-performance (PFP) perceptions and defined it as "the perceptions employees hold regarding the nature of performance-pay contingencies" (p. 3). Bamberger and Belogolovsky (2010) and Belogolovsky and Bamberger (in press) used PFP perceptions as a mediator in their experimental studies when they examined the effects of pay secrecy on individual task performance. Both studies adapted the measure of PFP perceptions from Erez and Isen (2002). As a measure of PFP perceptions in their studies, they used only the instrumentality perceptions–the perceived link between performance and rewards.

Because the primary concept of PFP is derived from motivational theories, in particular expectancy theory, it is very reasonable that those motivational perceptions are being used to measure individual perceptions of PFP plans. To measure how people perceive more than one type of PFP plan in multi PFP environments, I argue that those various aspects of dimensions should be considered. In sum, to focus on PFP perceptions, this dissertation uses the sub-dimensions of the construct of PFP perceptions–instrumentality, expectancy, and valence perceptions.

Table 2. Pay-For-Performance Perceptions Construct

	Construct	Definition	Measure
Gupta (1980)	Perceived degree of reward contingency	The extent to which intrinsic rewards and/or pay increases were likely to result from effective job performance.	Created survey questionnaires. "How likely is it that this may happen when you do your job well.. (You) will get a bonus or a pay increase (for performance- pay contingency)." "…(You) will get a good feeling that (you have) really done something important and useful" (for performance-intrinsic reward contingency)
Perry & Pearce (1983)	Reactions to merit pay	How much managers value pay increases, the extent to which a manager sees a clear link between pay, performance, and motivation.	Created survey questionnaires. - The importance of organizational rewards "How important are each of the following factors in your decision to remain in your present position? - Pay - Challenging work responsibilities - Friendliness of the people you work with - Fringe benefits - Promotional opportunities - Job security

			- Opportunity for public service - Retirement benefits - Location - The accuracy of objectives-based appraisals "All in all, I feel that the current performance appraisal process is effective." "I am not sure what standards have been used to evaluate my performance." "The standards used to evaluate my performance have been fair and objective." "Overall, the current performance process helps me to improve my job performance." "The present performance appraisal system contributes to overall agency effectiveness." "I have no control over the factors on which my performance is judged." "It is difficult to document the actual performance differences among managers and supervisors." - Reports of pay practices "Performance appraisals influence rewards and punishments in this organization." "If I perform especially well on my

			present job it is likely I would get a cash award or unscheduled pay increase." "Supervisors and managers are paid in proportion to their contribution to the organization." "Under the present system, financial rewards are seldom related to manager or supervisor performance." "All in all, current merit pay provisions encourage me to performance my job well." "I can believe that pay practices have significantly changed in the last six months." "I would probably work harder on my job performance if I thought I would then receive a cash reward or unscheduled pay increase."
Heneman, Greenberger & Strasser (1988)	The perceived adequacy of pay-system administration	The extent to which pay is perceived by employees to be linked to performance.	Adapted from Perry & Pearce (1983). "If I perform especially well on my job, it is likely that I would get a pay raise," "The pay raises that I receive on my job make me work harder," "The best workers in the hospital get the highest pay raises," "High performers and low performers seem to get the same pay raises."

	Construct	Definition	Measure
Deckop, Mangel, & Cirka (1999)	Performance-pay link	The degree to which employees perceived a strong link between their performance and pay.	Developed survey questionnaires. "Increased productivity means higher pay for employees," "My individual performance actually has little impact on any incentive pay award" (reverse-coded) "My performance actually has little impact on my salary" (reverse-coded).
Erez & Isen (2002)	Perceptions of Expectancy, Instrumentality, and Valence (VIE measures)	Expectancy perceptions: Perceived link between effort and performance. Instrumentality perceptions: the perceived link between performance and rewards. Valence perceptions: the attractiveness of an outcome	Experimental study. Validated and developed from Ilgen et al. (1981). (Expectancy perceptions) "Indicate your subjective probability that exerting a given level of effort would result in each level of performance." (Instrumentality perception) "Indicate your subjective probability that a level of performance relates to an expected level of rewards." (Valence perception) "Indicate the attractiveness of different amounts of prizes."

	Construct	Definition	Measure
Fong & Shaffer (2003)	Pay for performance perceptions	The perceived relationship between performance and pay.	Adapted from Heneman et al. (1988) (Instrumentality perceptions) "If employees perform well, there will be a payout from the company's group incentive plan." "My company's group incentive plan makes me work harder." (Expectancy perceptions) "The performance measures established for my company's group incentive plan are achievable." "The financial gates established for my company's group incentive plan are achievable."
Schaubroeck, Shaw, Duffy & Mitra (2008).	PFP perceptions	The extent to which an employee believes that his or her performance will be reliably related to merit pay raises.	Adapted from Perry & Pearce (1983) and Heneman et al. (1988). "The best performers will get the biggest pay raises."
Chiang & Birtch (2010).	PFP link	The degree to which employees perceived a strong link between their performance and pay outcomes.	Adapted from Chiang & Jang (2008) & Deckop et al (1999). "Whether they would receive good pay, an incentive pay award, monetary bonuses, and pay increases when they perform well in their job."

	Construct	Definition	Measure
Nyberg (2010).	The perceived pay for performance	The employee's view of the degree that performance and pay are linked.	Created survey questionnaires. "The compensation plans of this organization reward outstanding job performance." "The better my performance, the better my pay will be." "This organization recognizes productive people."
Bamberger & Belogolovsky (2010).	Instrumentality perceptions	The perceived performance-outcome contingencies.	Experimental study. Adapted from Ilgen, Peterson, Martin, & Boeschen (1981) and Erez & Isen (2002). "Participants were asked to estimate the likely bonus (with 0 – 8 ranges) associated with (a) a low performance level and (b) a high performance level." "Perceived instrumentality was then calculated as the difference between the bonuses expected by the participant under conditions of high and low performance as a proportion of total pay and could thus range from 0% to 40%."

	Construct	Definition	Measure
Belogolovsky & Bamberger (In press).	Pay-for-performance perceptions (PFP perceptions)	The perceptions employees hold regarding the nature of performance-pay contingencies.	Experimental study. Adapted from Erez & Isen (2002). "Participants were asked to estimate the probability that a given level of performance (i.e., score) would result in a specific levels of bonus pay."

4.1.2. Defining PFP Perceptions

The first step toward advancing our understanding of how PFP plans motivate employees is to clearly define the construct of PFP perceptions (Cronbach & Meehl, 1955; Schwab, 1980). Based on the preceding discussion, I define pay-for-performance perceptions (PFP perceptions) to clearly reflect the underlying mechanism of the construct so as to advance a valid measurement in compensation, particularly under multi-PFP plan environments, and also to see if the construct of interest has practical value to be used in any relevant research (Sturman & Short, 2000; Tracey & Tews, 2005). Accordingly, I define employee PFP perceptions as the following:

> *The subjective experience of pay for performance, which is composed of a subjective belief about the link between pay and performance, the perceived achievability of given tasks, and the subjective value of associated financial rewards.*

This set of perceptions is expected to depend on employees' previous histories with their organizations (e.g., policies, their knowledge of the performance ratings), their previous performance levels, future expectations, and different characteristics of various types of PFP plans.

In complex multi PFP plan environments, I also define individual perceptions of different types of PFP plans. I define individual perceptions of a raise as the following:

> *The subjective experience of a raise (merit pay), which is composed of a subjective belief about the link between pay and performance, the perceived achievability of given tasks, and the subjective value of associated financial rewards.*

Bonus perceptions are defined as the following:

> *The subjective experience of bonus, which is composed of a subjective belief about the link between pay and performance, the perceived achievability of given tasks, and the subjective value of associated financial rewards.*

Among the different aspects of various PFP plans, we should consider the individual perceptions of those types of PFP plans. For example, types of bonus rewards can vary based on the team, division/department, and/or organizational level of the performance metric, such as team/department/organization-based performance bonuses, profit sharing, and stock options/grants. Therefore, the definition of individual perceptions of these various rewards should be distinctively defined according to the type of reward.

4.2. The Previous Measures of General PFP Perceptions

Without a clear definition of PFP perceptions, Perry and Pearce (1983) who put forth the most cited measure of PFP perceptions–conceptualized (but did not explicitly define the construct) and developed survey questionnaires about PFP perceptions for a federal employee (managers) survey. Based on the difference between the new pay system (i.e., merit pay) that had just emerged (in the late 1970s and early 1980s) and the old pay systems, they identified three major attributes of PFP plans that should be considered: 1) "Do federal managers (the recipients) value pay increases? 2) Are federal managers more likely to expect effort to lead to highly rated performance under the objectives-based appraisal systems? 3) Are federal managers more likely to expect good performance to lead to increased pay under merit pay than under previous time-in-grade compensation programs?" (p. 231). Perry and Pearce (1983) focused on one key purpose of merit pay: to change managerial motivation. Therefore, their conceptualizations were influenced by the three motivational factors of expectancy theory (Vroom, 1964). Based on their

conceptualization, they developed 15 items of merit pay reactions (i.e., employee perceptions of merit pay) under three dimensions: 1) the importance of organizational rewards, 2) the accuracy of objectives-based appraisals, and 3) reports of pay practices (measuring the link between pay and performance). Yet most subsequent research that measured PFP perceptions had adapted some survey questions from only one dimension, the "reports of pay practices." As a result, previous research using the construct of PFP perceptions has been limited in scope.

4.2. The New Measures of Overall PFP Perceptions

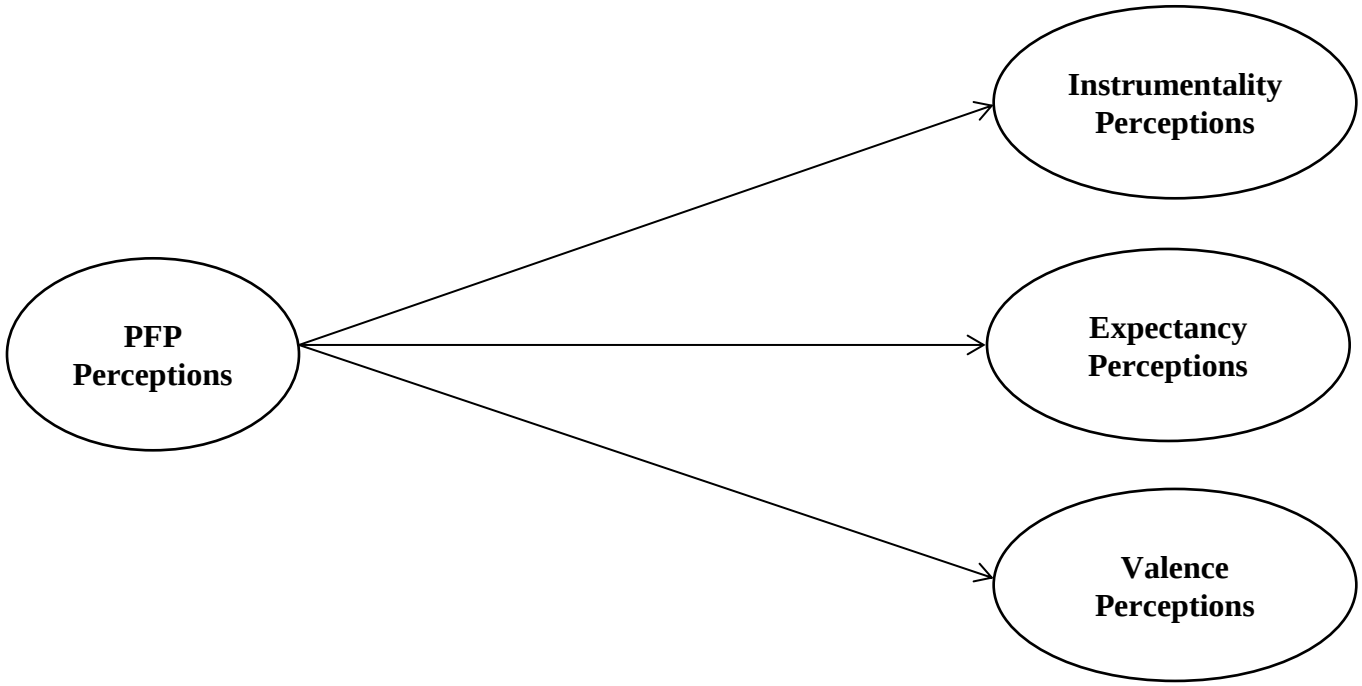
Until recently, compensation research has generally paid attention to a measure of PFP perceptions that measures how people feel and react to their overall PFPs, regardless of other PFP plans that they also receive simultaneously. This dissertation recognizes two important factors that PFP research should consider. The first factor is the complex PFP environment, in which employees usually receive more than one PFP at a time. Measuring only general perceptions of PFPs in modern compensation practices is likely insufficient to have greater accuracy when assessing the effectiveness of PFPs. The second factor is that single-dimensional measures do not fully capture the multidimensional experience of the motivational effects of PFP plans that are predicted by theory. Based on expectancy theory and on subsequent advances to motivation theory that have built on expectancy theory, PFP perceptions should be multi-dimensional. This dissertation develops and validates a multi-dimensional measure of individual PFP perceptions for complex pay system environments, overall, within, and across PFPs. In this chapter, I first explore a measure of overall PFP perceptions (see Figure 1). I propose that measures of overall PFP perceptions should include three components: instrumentality, expectancy, and valence perceptions. Instrumentality perceptions (the link between pay and performance) measures whether an individual believes that each type of PFP plan is linked to

performance (i.e., performance in a previous time period) of either an individual or group/organization depending on the specific type of rewards. It measures if employees are aware that their performance is connected with financial incentives (i.e., the linkage between employees' previous performance and subsequent PFP plans) and if employees understand the rationale behind PFP plans. Expectancy perceptions (the link between each individual's efforts and a certain level of job performance that determines financial rewards) would measure if individuals believe that a certain level of job performance for financial rewards is realistically and achievably set up for each individual. This perception is more likely to be determined by past experience and future expectations (Bandura, 1982; George & Jones, 2000). Valence perceptions (the perceived value of financial rewards) would measure the degree to which individuals subjectively value financial rewards. In addition to the dimensional structure of the overall PFP perceptions construct, I expect that the three dimensions should be interrelated and influence one another to shape individuals' subjective perceptions of overall PFPs that they are eligible to receive. Thus, with the overall nature of the compensation system, I expect the following:

Hypothesis 1: Of their overall PFP plans, employees differentiate between instrumentality, expectancy, and valence perceptions.

Hypothesis 2: Of their overall PFP plans, all three PPQ dimensions (instrumentality, expectancy, and valence perceptions) are positively associated with each other.

Figure 1. Hypothesized Factor Structure for PFP Perceptions Dimensions



Note: measured variables, lower order factors, and disturbance terms are omitted for simplicity.

CHAPTER V

COMPARISONS WITHIN AND ACROSS PFP PLANS

Research on compensation has focused largely on general PFP systems, taking no account of other co-existing PFP plans that employees also received simultaneously (for a review, see Gerhart et al., 2009). In the previous chapter, I looked at how individuals perceive and react to their PFP plans overall. In this chapter, I explore more closely multiple PFP plan environments with the developed measurement of PFP perceptions (PPQ) by considering how individuals perceive PFP plans when being paid in a multi-PFP plan environment. Then, after establishing the dimensional structure of the overall PFP perceptions measure, I examine the construct validity of each PFP perceptions measure, including testing the convergent and discriminant validity of the scales for specific types of PFP plans.

I examined multiple PFP plans both within and across PFP plans in multiple PFP environments. "Within PFP plans" refers to examining the structure of the three dimensions of a particular PFP plan and looking at a single PFP plan at a time. When making within–plan comparisons (see Figure 2), I predict that individuals perceive each PFP component, even when they are being paid by at least more than one PFP at a time. In other words, I explore how the three dimensions of each PFP plan are associated within a specific PFP plan.

"Across PFP plans" refers to making comparisons of how individuals perceive a given dimension of PFP perceptions across multiple PFP plans and looking at a single dimension at a time. I examine how individuals perceive each of the three dimensions of PFP perceptions compared to the same dimension from the other co-existing PFP plans. In other words, I explore how individuals in a multiple PFP environment (across PFP plans) perceive differently and

distinctively each dimension of the PFP perceptions measurement. Figure 3 presents the hypothesized factor structure for PFP perceptions across PFPs.

In order to examine how individuals perceive their multiple PFP plans in actual multi-PFP environments, I compare different types of PFP plans under seven combinations of multiple PFPs. In this study, based on the popularity of PFP plans that many organizations implement (WorldatWork Salary Budget Survey, 2012), I considered four PFPs: raises, individual-based performance bonuses, team-based performance bonuses, and organization-based performance bonuses. I examine these plans through seven different combinations. The combinations are (1) raises and individual-based performance bonuses, (2) individual-based performance bonuses and team-based performance bonuses, (3) raises and team-based performance bonuses, (4) team-based performance bonuses and organization-based performance bonuses, (5) individual-based performance bonuses and organization-based performance bonuses, (6) raises and organization-based performance bonuses, and (7) raises, individual-based performance bonuses, and team-based performance bonuses (See Table 7).

5.1. Exploring PFP Perceptions within a PFP Plan

To measure how people perceive PFP plans in multiple PFP environments, I first examine individual perceptions within PFP plans. When covered by multiple PFP plans simultaneously, for any type of PFP plan, PFP perceptions will be constituted by the perceived link between pay and performance and the attractiveness of the financial rewards for each reward (Steel & Konig, 2006). Thus, I expect that individuals will differentiate the three dimensions (instrumentality, expectancy, and valence) that can capture key aspects of individual subjective perceptions of PFP rewards of each type of PFP in a multiple PFP environment. In addition to the dimensionality of the measure, I predict the presence of both convergent and discriminant

validity (Schwab, 1980, 2005). Convergent validity for PFP perceptions that measure any specific type of PFP should be viewed by significant correlations among the conceptually related dimensions of instrumentality, expectancy, and valence. That is, in a situation where individuals are offered various types of PFPs, the three dimensions that I developed for PFP perceptions should be interrelated and influence one another in such a way to shape individuals' subjective perceptions of each PFP plan. Thus, I expect there to be substantial correlations between the three dimensions of PFP perceptions within a PFP plan (i.e., per type of PFP). Note that, as I predict in the previous chapter, the three dimensions of the PFP plans should all be correlated for overall perceptions for convergent validity. Although the measures share similar item content, these items are combined so as to create a unique concept (cf., Macey & Schneider, 2008). This should be evidenced by the hypothesized multi-dimensional structure fitting the data better than other models. Thus, I expect

Hypothesis 3: When looking within PFP plans under a combination of different PFP plans, employees differentiate among instrumentality, expectancy, and valence perceptions within each PFP plan.

Hypothesis 4: When looking within PFP plans under a combination of different PFP plans, the three dimensions within each PFP (raise, individual bonus, team bonus, and organization bonus) are positively associated with one another.

5.2. Exploring PFP Perceptions Across PFPs

Temporal motivational theory (Steel & Konig, 2006) suggests that individuals value, are motivated by pay, but make decisions about pay differently based on immediacy/delay, goals, utility (strength of need), and the amount of rewards from each pay plan, all of which vary within and across organizations. Across PFP plan practices of organizations, each PFP (even under the

same name) may have varying strengths in the relationship between performance and rewards and different reward size (Park & Sturman, 2012, 2013). These dynamic factors of PFP plans often lead to different effects on individual performance (Park & Sturman, 2012, 2013). Previous findings of compensation research show disparate incentive effects of merit pay (raises: r = .30: Trevor et al., 1997; r = .05: Salamin & Hom, 2005) and of individual-based performance bonuses (r = .42: Salamin & Hom, 2005, r = .15: Mizruchi et al., 2011). Thus, I predict that employees will perceive the three dimensions–instrumentality, expectancy, and valence– differently, due to different forms and characteristics across multiple PFPs.

Individuals may develop different subjective feelings about the characteristics of each plan based on the form (either permanent pay increase, a one-time payment, or a delayed payment), the plan's characteristics (the strength of the relationship between pay and performance and reward size), and the various subjective components of choice (e.g., the needs for achievement, affiliation, and power). Whatever feelings do arise are related to the three dimensions of PFP perceptions (instrumentality, expectancy, and valence) for each PFP in environments that cover employees with a portfolio of PFP plans. For example, when individuals are covered by multiple PFPs that are at the individual level of the performance metric (e.g., raises and individual-based performance lump sum bonuses), they may clearly perceive the instrumentality, expectancy, and valence of the rewards.

Compared to long-term and/or group incentives (e.g., stock options/grants, team incentives), the individual level of the PFP plans is clear, and employees can more easily see the connections between their own performance and the reward, the link between their efforts and the required level of job performance to attain the rewards, and the amount of the rewards. At the group level of rewards, such as team-based performance bonuses or organization-based

performance bonuses, the link between individual effort and team/group or organizational performance may not always be clear to employees (i.e., line of sight problem) (Boswell & Boudreau, 2001). For those rewards, it is very difficult to predict the performance of other employees (team members or employees in the same department or the entire group of employees), along with the firm's objectives to achieve the firm's goals (i.e., line of sight). The line of sight problem may lead to a weaker link between each dimension and the group level of the rewards relative to the individual-level PFPs across PFP plans.

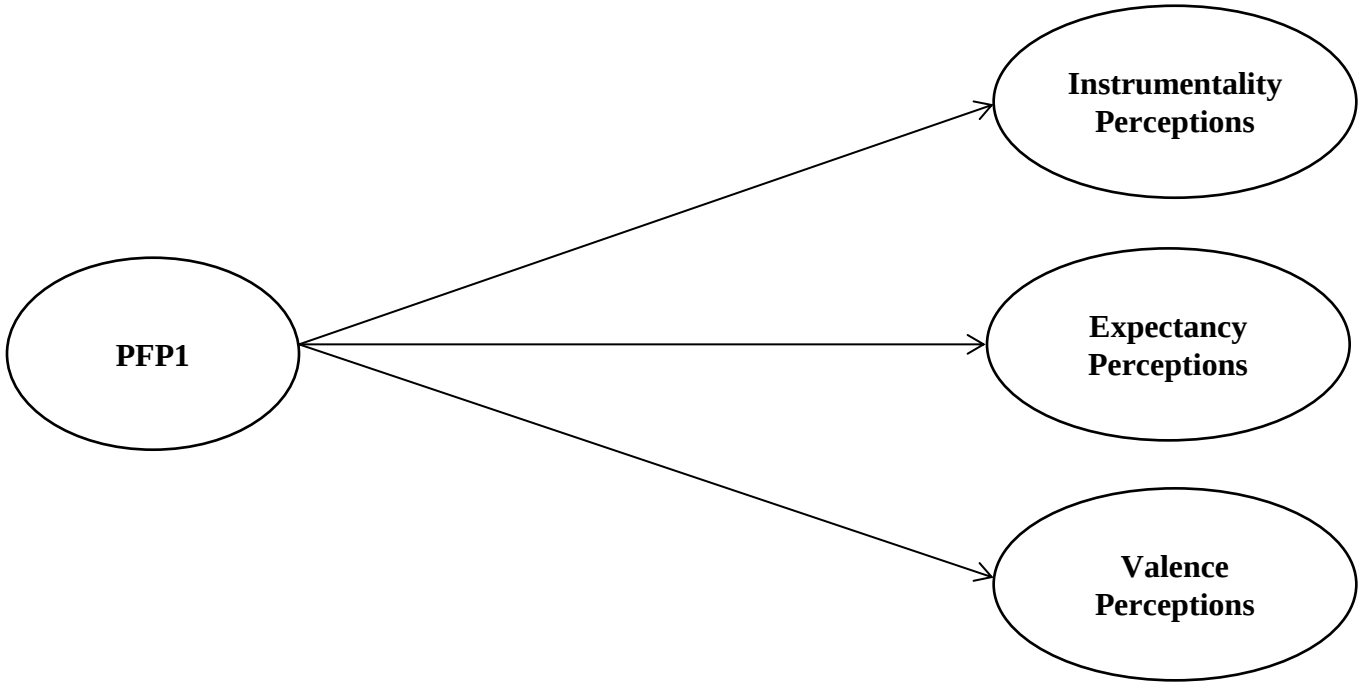
Thus, I expect that individual-level rewards (raises, individual-based performance bonuses) will have the potential for greater instrumentality, expectancy, and valence than the group-level PFP plans (team-based performance bonuses and organization-based performance bonuses). Thus, I expect the following:

Hypothesis 5: When comparing the level of instrumentality associated with different PFP plans, the level of instrumentality for individual-level PFP plans (raises and individual bonuses) will be higher than that of group-level PFP plans (team bonuses and organization bonuses).

Hypothesis 6: When comparing the level of expectancy associated with different PFP plans, the level of expectancy for individual-level PFP plans (raises and individual bonuses) will be higher than that of group-level PFP plans (team bonuses and organization bonuses).

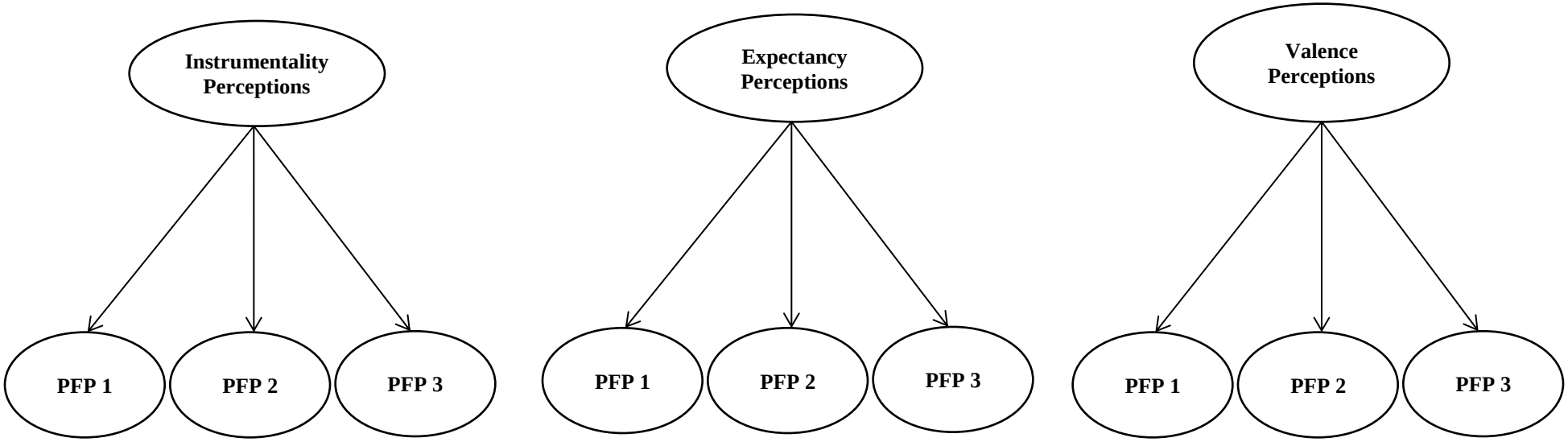
Hypothesis 7: When comparing the level of valence associated with different PFP plans, the level of valence for individual-level PFP plans (raises and individual bonuses) will be higher than that of group-level PFP plans (team bonuses and organization bonuses).

Figure 2. Hypothesized Factor Structure for PFP Perceptions Dimensions Per PFP Plan (Within a PFP Plan)



Note: measured variables, lower order factors, and disturbance terms are omitted for simplicity.

Figure 3. Hypothesized Factor Structure for PFP Perceptions Dimensions (Across PFP Plans)



Note: measured variables, lower order factors, and disturbance terms are omitted for simplicity.

CHAPTER VI

CRITERION-RELATED VALIDITY OF PFP PERCEPTIONS: THE RELATIONSHIP BETWEEN PFP PERCEPTIONS AND EMPLOYEE JOB ATTITUDES

6.1. Establishing a Criterion-Related Validity of PFP Perceptions

The main purpose of this chapter is to examine the criterion-related validity of the PFP perception measures–a necessary part of construct validation. Such an examination should yield further evidence of construct validity for the overall and specific plan PFP perceptions measures (Hinkin, 1995; Nunnally & Bernstein, 1994). It has been suggested that the construct of interest (i.e., PFP perceptions) is proved to be more valid when the measure of the construct provides support for the relationships with other measures that are in the nomological network (Schwab, 2005).

Although research has drawn attention to the value of studying the effects of PFP systems, little attention has been given to employee perceptions of PFP. Thus, it is not yet known why, how, or when PFP perceptions may link to various important constructs, which in turn affects organizational effectiveness. Except for pay satisfaction research, there has not been research into how employee perceptions of PFP affect a variety of constructs. Rather, extant research has focused on the pay system per se, not on employee perceptions. Examining criterion-related validity can provide evidence that the PFP perceptions measure is valid by establishing its nomological network (Schwab, 1980).

Previous research has implied that employees' perceptions of PFP should be related to various attitudes and behaviors, such as pay satisfaction, job satisfaction, organizational commitment, trust, and turnover intention (e.g., Bloom, 2004; Heneman et al., 1988). For example, Bloom (2004) found that "given the vital role that compensation systems play in

employment relationships, it is also very likely that they play an important role in shaping whether people feel they are treated with dignity, trust, and respect and whether they believe the values and culture of the organization are worthy of their fullest commitment and highest efforts" (p. 149). As a human resources management practice, the main goal of designing compatible compensation systems is to influence employees' attitudes and behaviors at work. Hence, they exert more effort and, in turn, become more productive (Alfes, Shantz, & Truss, 2012). There is abundant empirical evidence of the positive relationship between employee perceptions of human resources management practices and a number of individual outcomes, such as a variety of positive behaviors and performance (e,g., Alfes et al., 2012; Allen, Shore, & Griffeth, 2003; Eisenberger, Huntington, Hutchison, & Sowa, 1986; Kuvaas & Dysvik, 2010; Nishii, Lepak, & Schneider, 2008; Rhoades & Eisenberger, 2002; Wayne, Shore, & Liden, 1997). Given such evidence, I propose that employee perceptions of their PFP plans should shape and influence workers' attitudes and behaviors in the organization. To illustrate, I examine the relationship between overall PFP perceptions and five important outcomes: pay satisfaction, job satisfaction, organizational commitment, trust, and turnover intention. Specifically, to look at the nomological relationships with the five outcomes, I consider the individuals' overall perceptions of PFPs. Previous studies have mostly looked at the relationship between overall perceptions of PFPs and employees' attitudes and behaviors. Thus, this approach will provide general insights into the validity of the nomological network. Furthermore, I examine the relationship between PFP perceptions of specific types of PFPs (raises, individual bonuses, team bonuses, and organization bonuses) and the associated satisfaction of the four specific types of PFPs: raise satisfaction, individual bonus satisfaction, team bonus satisfaction, and organization bonus satisfaction. In this chapter, I begin by providing an overview of the pay satisfaction, job satisfaction,

organizational commitment, trust, turnover, and PFP satisfaction theories. I then investigate how they are related to the PFP perceptions construct. Next, I suggest specific hypotheses about each of them, and how they are associated with PFP perceptions.

Pay satisfaction. Pay satisfaction refers to "the amount of overall positive or negative affect (or feelings) that individuals have toward their pay" (Miceli & Lane, 1991, p.246). Because of its importance in organizational outcomes, pay satisfaction has received a great deal of attention from compensation researchers and practitioners over the past four decades (Currall, Towler, Judge, & Kohn, 2005; Heneman, 1985; Heneman & Schwab, 1979; Heneman et al., 1988; Williams, McDaniel, & Nguyen, 2006). Previous research has reported that pay satisfaction is positively associated with job performance and negatively associated with absenteeism and turnover (e.g., Currall et al., 2005; Heneman, 1985).

The main theories explaining pay satisfaction over the past 40 years are equity theory and discrepancy theory (Heneman, 1985; Heneman & Judge, 2000; Lawler, 1971, 1981). Equity and discrepancy theories offer insight into how pay satisfaction is determined and suggest possible consequences of pay dissatisfaction. The key argument of the equity model is that individuals compare the ratio of their outcomes to inputs to the outcome-input ratios of other individuals. Employees feel satisfied with their pay when their ratios are comparable to those of others. Likewise, the discrepancy theory suggests that individuals' perceived pay satisfaction is influenced by a discrepancy between their "should–receive" perceptions of how much pay they think they should receive and their "do–receive" perceptions. When the two perceptions match, employees feel satisfied with their pay.

Pay satisfaction is a complex reaction to one's environments, and it is often regarded as the consequence of the feelings employees have toward their pay systems. On the other hand,

PFP perceptions reflect individuals' psychosocial experiences associated with their pay systems, performance appraisals, and the work environments they encounter. Based on their own perceptions of the environment (i.e., PFP perceptions), individuals tend to react and have feelings of satisfaction or dissatisfaction with their pay (Adams, 1965; Lawler, 1971, 1981). That is, individuals' perceptions of their compensation systems give rise to the ratio of their outcomes to inputs compared to the ratio of outcomes and inputs of other employees. Furthermore, the discrepancy between individuals' perceptions of the payment they feel that they should receive and the payment they do receive arises from how they perceive their compensation system. Although there is a handful of previous studies that have examined the relationship between PFP perceptions and pay satisfaction, most of them considered each of these variables as a uni-dimensional construct. Consequently, they used a single-item measure of PFP perceptions and pay satisfaction (Heneman et al., 1988). Only a small number of studies have attempted to show the associations between perceptions of pay (e.g., "adequacy of pay-system administration": Dyer & Theriault, 1976; "PFP perceptions": Heneman et al., 1988; "perceptions of pay policies and administration": Williams et al., 2006) and pay satisfaction using multidimensional measures of pay satisfaction. No empirical research has been directly conducted on the impact of PFP perceptions on pay satisfaction by using measures of PFP perceptions with multiple dimensions.

Prior compensation research has found a direct and positive relationship between PFP perceptions and pay satisfaction (Dyer & Theriault, 1976; Heneman et al., 1988; Lawler, 1971; Penner, 1966). In other words, the level of employee pay satisfaction increases when employees perceive that their pay is based on performance. Drawing on equity theory and discrepancy theory, a number of studies have shown that PFP perceptions are positively related to pay satisfaction (Dyer & Theriault, 1976; Gupta, 1980; Heneman, 1984; Heneman et al., 1988;

Williams et al., 2006). If individuals perceive that their pay system and the policy in their organizations to be fair and instrumental for their rewards, they should be satisfied with their pay outcomes (pay raises satisfaction, pay level satisfaction, and overall pay satisfaction) (Heneman, 1984; Heneman et al., 1988; Lawler, 1971; Williams et al., 2006). Gupta (1980) argued that individuals are more likely to have higher levels of pay satisfaction under PFP plans because they can internally control their performance levels.

Furthermore, the link between performance and pay–the main functionality of PFP–leads individuals to have strong feelings of equity. These are highly related to pay satisfaction because individuals believe that ability, which they can control, is the main factor determining reward allocation in performance contingent reward systems. In contrast, under seniority reward systems, individuals are more likely to have feelings of inequity because they believe that "non-ability variables (sex, age, race, etc)" play significant roles in reward allocations. Overall, PFP perceptions are a distinct construct but related to pay satisfaction insofar as being a key determinant. Therefore, I expect a positive link between employees' overall PFP perceptions and pay satisfaction.

Hypothesis 8: Employees' overall perceptions of PFP plans are positively associated with pay satisfaction.

Job satisfaction. Job satisfaction refers to "complex emotional reactions to the job" (Locke, 1969, p.314). More specifically, it is "the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values" (Locke, 1969, p.316). Research has repeatedly shown that money is a strong motivator and positively related to job satisfaction (e.g., Currall et al., 2005; Gomez-Mejia & Balkin, 1992; Green & Heywood, 2008; Greene, 1973; Igalens & Roussel, 1999; Nawab & Bhatti, 2011). Most recently,

Judge, Piccolo, Podsakoff, Shaw, and Rich's (2010) meta-analysis of the relationship between pay and job satisfaction showed that pay level is positively but marginally correlated with job satisfaction (r = .15) and with pay satisfaction (r = .23). Note that most previous research has used the construct of either pay satisfaction or pay level to examine the relationship between pay and job satisfaction. No study has focused on how employees' perceptions of PFP are related to job satisfaction. It is still unclear whether PFP perceptions determine individuals' job satisfaction and how these two operate.

Drawing on discrepancy theory and equity theory, Lawler (1973) suggested that what individuals actually receive versus what they feel they deserve determines job satisfaction. Job satisfaction is an attitude by which individuals evaluate statements (either favorable or unfavorable) towards their jobs. The attitude may be characterized as "the summation of sense, belief and thoughts which the individual forms in direction with his perceptions about his environment" (Man, Modrak, Dima, & Pachura, 2011, p. 9). It often reflects how a person feels about something. Furthermore, researchers in management and I/O psychologists have found that job satisfaction has a close relationship with motivation (Lawler, 1973). Employees who believe their PFP systems are fair are more likely to be satisfied with their jobs; given this, employees' perceptions of PFP can play a significant role in influencing their affective reactions to their jobs. Furthermore, because financial incentives can be a strong motivator that leads to job satisfaction, the perceptions of employees towards PFP should also be related to their attitudes towards their jobs. Hence, I expect:

Hypothesis 9: Employees' overall perceptions of PFP plans are positively associated with job satisfaction.

Organizational commitment. Organizational commitment has been defined as "the

relative strength of an individual's identification with and involvement in a particular organization" (Mowday, Steers & Porter, 1979, p.226). As with job satisfaction, management researchers have considered organizational commitment to be an important attitudinal variable. Indeed, it is related to employee turnover, which impacts organizational outcomes (e.g., Porter, Steers, Mowday, & Boulian, 1974; Tett & Meyer, 1993). As it is an attitudinal behavior, research suggests that organizational commitment reflects employees' strong beliefs in their organizations' goals and values and desires to remain in their organizations (Mowday et al., 1979). Until recently, the literature has been dominated by three dimensions of organizational commitment (Solinger, Olffen, & Roe, 2008): affective commitment, continuance commitment, and normative commitment (Allen & Meyer, 1990). Affective commitment refers to the emotional attachment to the goals and values of the organization, such as whether an employee is happy about, enjoys, or feels attached to a particular organization. Continuance commitment refers to the attachment to the organization based on the costs that an employee has to pay when leaving an organization. Normative commitment refers to the extent to which an employee feels obligated to stay with the organization. There has, however, been criticism of the three dimensions that they are rather conceptualized so as to measure employee voluntary turnover (e.g., Solinger et al., 2008). As such, a number of studies have used affective commitment to measure compensation-related variables (i.e., pay satisfaction, pay level) (e.g., Mathieu & Zajac, 1990; Sturman & Short, 2000). In this study, I also consider affective commitment to test the relationship between PFP perceptions and the construct of organizational commitment.

As described in many studies exploring the relationship between organizational commitment, job satisfaction and/or pay satisfaction, the nature of the construct of organizational commitment suggests that employees' perceptions of a pay system may affect their attitudinal

behavior, which is their attachment to their organizations. For example, Dulebohn and Martocchio (1998) showed that organizational commitment is positively correlated with employees' belief in their group pay plan's effectiveness (r = .49) and understanding of their group pay plan (r = .42). Affective commitment is also an affective state, just as job satisfaction is. However, they are distinct constructs in that affective commitment is an emotional attachment to an organization while job satisfaction is an emotional feeling toward the job (Kooij, Jansen, Dikkers, & Lange, 2010). Thus, I expect the following:

Hypothesis 10: Employees' overall perceptions of PFP plans are positively associated with employee organizational commitment.

Trust. Trust refers to "the intention to accept vulnerability to a trustee based on positive expectations of his/her actions" (Colquitt, Scott, & Lepine, 2007). According to the literature on organizational trust, trust violations occur when positive expectations of the trustee are disrupted, and vice versa. Trust in the workplace has a huge impact on employee motivation and performance. The impact is such that "trust in one's employer relates to an employee's belief about the likelihood that the employer's future actions will be beneficial, favorable, or at least not harmful, to an employee's own interest, and is therefore a crucial factor influencing an employee's behavior" (Alfes et al., 2012, p.412).

Alfes et al. (2012) showed that trust in an employer moderates the relationship between perceptions of HRM practices, including compensation and task performance, turnover intentions and employee well-being. That is, a high level of trust in the employer strengthens the relationship between perceived HRM practices and employee task performance. It does so by leading employees to interpret the HRM practices in positive ways (such as "an investment in them") so that they put more effort into their work. In contrast, employees with low trust in their

employer are more likely to interpret HRM practices less positively. This leads to a decrease in their task performance. In a similar vein, the level of trust that employees have in their supervisors and the top management may influence employee perceptions of PFP plans.

Within an organization where social exchange relationships between employees and employers exist, tangible outcomes, particularly financial rewards, play a significant role in building or violating trust with supervisors and top management (Desmet, De Cremer, & Van Dijk, 2011). The size of financial compensation has been identified as the leading cause of building, disrupting and/or repairing trust (e.g., Desmet et al., 2011). Nonetheless, all of the processes of employee compensation–such as the performance appraisal process and interpersonal relationships between employees and their bosses–should also have significant impacts on trust. Thus, I predict that employees' perceptions of PFP plans have a positive relationship with their trust in supervisors and top management. Therefore, I expect

Hypothesis 11: Employees' overall perceptions of PFP plans are positively associated with trust in supervisors as well as top management.

Turnover Intention. As noted above, we have yet to fully know the effect of PFP perceptions on various other variables, particularly turnover intentions, due to the lack of a clearly defined construct. Although other research has not yet fully examined this, we can still learn from previous research related to the variables of interests. Previous research has shown that turnover intention (or voluntary turnover) is related to pay satisfaction (e.g., Sturman & Short, 2000) and employee job performance (e.g., Trevor et al., 1997). For example, Sturman and Short (2000) found a negative effect of lump-sum bonus satisfaction on turnover intention. Trevor et al. (1997) also found that high performers are more likely to leave their organizations when their performance is not reflected in their pay growth as a reward. Although these previous

studies and findings are not directly focused on PFP perceptions, supportive findings have implications for understanding the relationship between PFP perceptions and turnover intentions. The variance of the relationships between employee PFP perceptions and turnover intentions will vary depending on the level of performance (high vs. low). Overall, however, employees will attempt to leave their organizations when they perceive a low level of PFP perceptions: they will attempt to stay in their organizations when they have strong PFP perceptions. Therefore, I predict

Hypothesis 12: Employees' overall perception of PFP plans is negatively associated with turnover intention.

PFP satisfaction. Taking a closer look at multiple PFPs, we can see that organizations administratively manage different types of PFPs separately, and that individuals are likely to perceive all types of PFPs that have different forms and functionalities, such as raises and lump-sum bonuses, distinctively (Sturman & Short, 2000). Thus, the nomological relationship between each type of PFP and the associated satisfaction should be considered separately. Sturman and Short (2000) suggested that satisfaction with multiple pay practices should be captured with a separate measure of each PFP because the Pay Satisfaction Questionnaire (PSQ; Heneman & Schwab, 1985) does not fully capture the modern compensation practices that are multiple and complex. Thus, with a very similar approach to the nomological relationship between pay satisfaction and individuals' overall perceptions of PFPs, I also expect a positive link between employees' perceptions of specific types of PFPs and their associated satisfaction. Thus, I expect

Hypothesis 13a: Employees' perceptions of raises are positively associated with raise satisfaction.

Hypothesis 13b: Employees' perceptions of individual bonuses are positively associated with individual bonus satisfaction.

Hypothesis 13c: Employees' perceptions of team bonuses are positively associated with team bonus satisfaction.

Hypothesis 13d: Employees' perceptions of organization-based performance bonuses are positively associated with organization-based performance bonus satisfaction.

Figure 4. Nomological Network of Overall PFP Perceptions in the Workplace

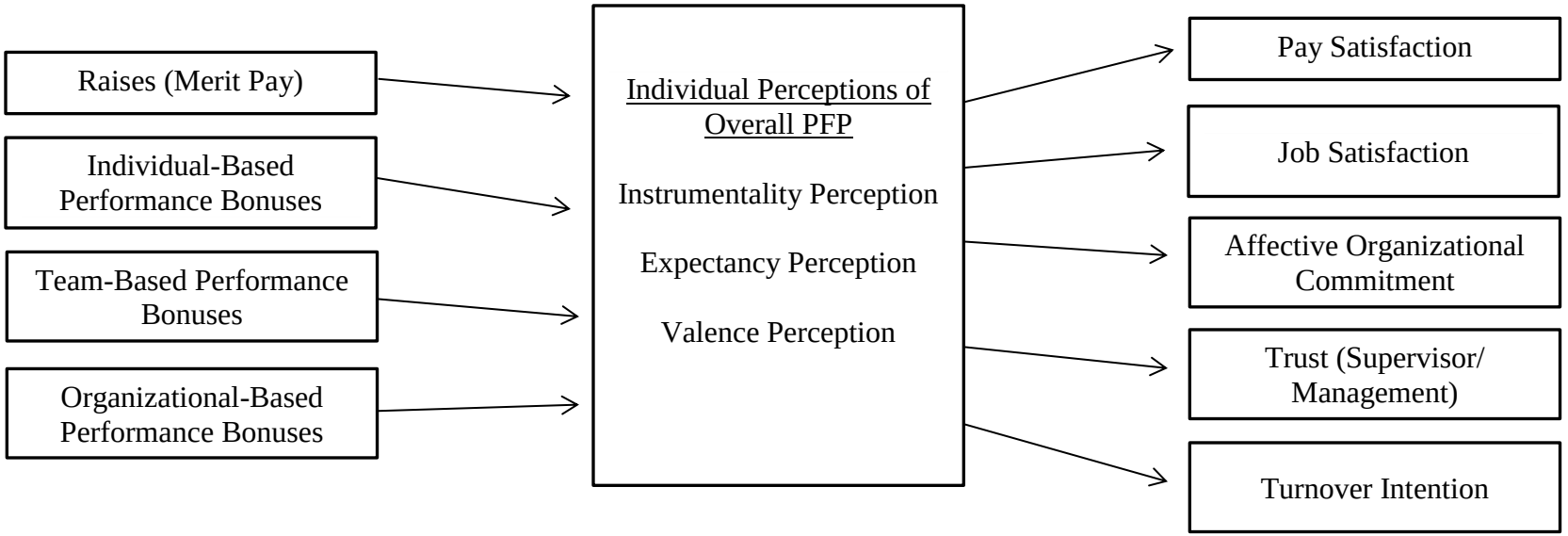
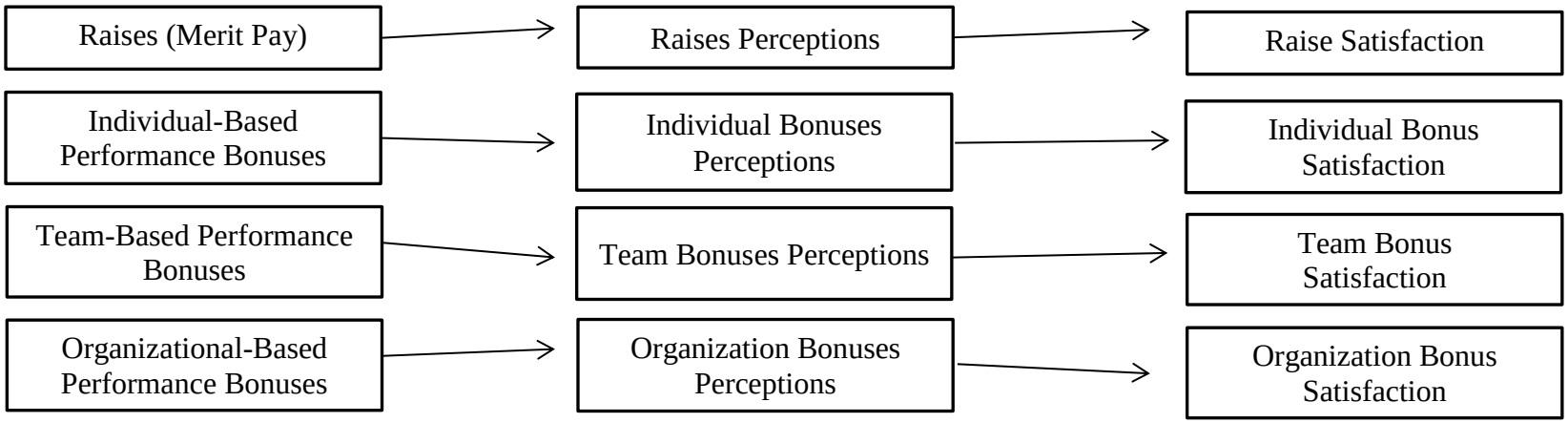


Figure 5. Nomological Network of Specific Plan PFP Perceptions in the Workplace



CHAPTER VII

METHODS

TESTING RELIABILITY AND VALIDITY OF PFP PERCEPTIONS

7.1. Participants and Setting

Data for this dissertation was collected from Amazon's mechanical turk (Mturk) (www.Mturk.com). Mturk is an open online marketplace that provides online survey opportunities for researchers by connecting "requesters" who publish tasks ("hits") and "human providers ("workers") who complete them. This web-based data collection place has recently become very popular among social scientists, who account for over 100,000 users from over 100 countries conducting large numbers of experiments and surveys (Buhrmester, Kwang, & Gosling, 2011). Collecting employee attitude data that comes from a wide variety of occupations and organizations is a very useful way to get data, particularly for this dissertation, because one of the main purposes of this study is to consider a variety of multiple PFP environments. It provides a good opportunity to measure individual perceptions of different types of PFPs in different combinations of multiple PFPs, which is very difficult to do with data from a single organization. For this study, I prescreened participants to be (1) full-time employees and (2) who are eligible for types of performance-related financial rewards (e.g., merit pay, individual-based bonuses under PFP plans) that a company provides.

Mturk provides a system where a requester deposits an amount of money the requester has set prior to recruiting participants. The requester can always reject participants who do not provide acceptable answers and can invite new participants until the sample size meets the requester's needs. At first, I recruited 100 prescreened participants for a pre-test. A total of 167 people attempted to participate in the survey. Sixty-seven people were rejected because they

either did not follow the instructions or they did not complete the survey. Each participant who agreed to take the survey and who provided acceptable answers (i.e., followed my instructions and completed the survey) was paid 75 cents.

After a week having experienced the entire survey process and feeling confident about conducting a survey with Mturk, I recruited another 650 participants (the Mturk system blocked participants who attempted to and/or conducted the previous survey) for the same survey. Again, a number of people were rejected because they did not provide acceptable answers. As a total, 1,526 people attempted to participate in the survey. 650 people who provided acceptable answers and completed the survey were paid 50 cents each. Because I used the same survey questionnaire at both time points with no overlaps across participants, I combined the surveys from the participants of the pre-test and of the survey. Eliminating improper responses produced a final sample size of 562. The sample was diverse in terms of occupation (management: 42%; service: 15%; sales and office: 15%; construction: 6%; production: 8%; government: 5%; others including IT and education: 9%). Of these 562, 68% were men; the median age was 25-29 years; the average dyadic tenure was 2.43 year; the average current job tenure was 2.91 years, and their average current organizational tenure was 4.54 years.

7.2. Measures

7.2.1. Item Generation and Refinement for PFP Perceptions

PFP Perceptions. I developed a measure of PFP perceptions using items for multiple dimensions. First, I reviewed and identified a number of PFP perception survey items that had been used in previous studies. These items have been typically used as a unidimentional construct: the link between pay and performance (Heneman et al.,1988; Gerhart et al., 2009). Second, I phrased a number of items similarly to those from previous research (Erez & Isen,

2002; Fong & Shaffer, 2003; Heneman et al., 1988; Perry & Pearce, 1983). Third, following the above definition, I established three dimensions of PFP perceptions: instrumentality, expectancy, and valence.

Two types of PFP perceptions measures were considered to be developed. One was PFP perceptions of overall PFPs and the other was PFP perceptions of specific types of PFPs. Using a deductive approach to scale development (Hinkin, 1995), I initially generated 23 items that were divided into three dimensions of PFP perceptions: 1) Instrumentality perceptions measure if individuals believe that each type of PFP plan is linked to performance (i.e., performance in a previous time period) of either an individual or group/organization, depending on the specific type of rewards. Employees should be aware that they get financial incentives for their performance (the linkage between employees' performance previous to and subsequent to PFP plans). 2) Expectancy perceptions represent the link between each individual's efforts and a certain level of job performance that determines financial rewards. And 3) valence perceptions measure the degree to which individuals value financial rewards. To review those items, I used a group of 10 people currently working in different industries. They identified items that were redundant or poorly worded. Based on their feedback, I refined some items before the survey was conducted.

7.2.2. Overall PFP Perceptions

The final items for overall PFP perceptions included 12 items in three dimensions: the instrumentality perceptions dimension is measured with six items; the expectancy perceptions dimension is measured with three items, and the valence perceptions dimension is measured with three items (See table 3). The PFP perception items were rated on a 7-point scale asking how an individual feels about PFP plans (1 = strongly disagree; 7 = strongly agree).

7.2.3. PFP Perceptions of Specific Types of PFPs

In order to measure individuals' PFP perceptions of specific types of PFPs, I employed 11 items in three dimensions: four for the instrumentality perceptions dimension, three for the expectancy perceptions dimension, and four for the valence perceptions dimension (see Table 4). Note that the measure of PFP perceptions of specific types of PFPs was limited to seven types of PFPs (raises, individual-based performance bonuses, team-based performance bonuses, divisional-based performance bonuses, organizational-based performance, stock options, and stock grants). The three types of PFPs, divisional-based performance bonuses, stock options, and stock grants were, however, excluded from the analysis due to small sample size. Using a 7-point scale ranging from 1–"strongly disagree; 7– "strongly agree," respondents reported how strongly they felt about each type of received PFP: raises (merit pay), individual-based performance bonuses, team performance-based bonuses, divisional performance-based bonuses, and organizational performance-based bonuses.

7.2.2. Other Measures

Pay satisfaction. Pay satisfaction was assessed using Heneman and Schwab's (1985) scale: the modified pay satisfaction questionnaire (PSQ). Eighteen items were assessed to measure participants' perception of pay satisfaction. The item anchors ranged from 1 (very dissatisfied) to 7 (very satisfied).

PFP satisfaction. I developed measures of PFP satisfaction for five specific PFPs that are phrased similarly to those of the lump-sum bonus satisfaction questionnaire (Sturman & Short, 2000): (1) raise satisfaction, (2) individual bonus satisfaction (3) team bonus satisfaction, (4) divisional bonus satisfaction, and (5) organization bonus satisfaction. The four items of each type of PFP satisfaction were assessed to measure participants' perception of (1) raise satisfaction, (2)

individual bonus satisfaction, (3) team bonus satisfaction, (4) divisional bonus satisfaction, and (5) organization bonus satisfaction. The item anchors ranged from 1 (very dissatisfied) to 7 (very satisfied).

Job satisfaction. Job satisfaction was assessed with Hackman and Oldham's (1975) 3-item scale. These items were used to measure how satisfied they were with their current jobs. Anchors ranged from 1 (very dissatisfied) to 7 (very satisfied).

Affective organizational commitment. Organizational commitment was measured using Allen and Meyer's (1990) affective organizational commitment 4-item scale. The anchors ranged from 1 (strongly disagree) to 7 (strongly agree).

Trust (supervisor). Trust in supervisor was measured using Mayer and Gavin's (2005) scale, updated from Mayer and Davis's (1999), with all items using anchors of 1 = strongly disagree to 7 = strongly agree. Five items were assessed to measure how trusting participants were of their supervisors.

Trust (management). Trust in management was assessed with Mayer and Gavin's (2005) scale, updated from Mayer and Davis's (1999). Four items were assessed to measure the degree to which participants trust their (top) management. The item anchors ranged from 1 (strongly disagree) to 7 (strongly agree).

Turnover intention. Turnover intention was assessed with Kelloway, Gottlieb, and Barham's (1999) 4-item scale. Anchors ranged from 1 (strongly disagree) to 7 (strongly agree).

Control variables. I controlled for the demographic characteristics of respondents including age and gender, which can be associated with individuals' PFP perceptions. In order to avoid biased parameter estimates, I also controlled for the effects of dyadic tenure, job tenure, and organization tenure in estimating respondents' perceived patterns of their PFPs.

7.3. Reliability, Confirmatory Factor Analyses, Paired *T* Tests, and Multiple Regressions

To test construct validity, I took four steps in an empirical examination (Cronbach & Meehl, 1955; Schwab, 1980, 2005). First, it was necessary to measure the reliability of the focal construct (PFP perceptions) (Hinkin, 1995; Schwab, 1980; Sturman & Short, 2000). Reliability refers to "the systematic or consistent variance of a measure (the degree to which measurement scores are free of random errors)" (Schwab, 2005, p.32). Cronbach's alpha was used to measure internal consistency, the extent to which a set of items measures the same construct (Cronbach & Meehl, 1955; Schwab, 1980, 2005). The value of 0.7 or higher indicates an acceptable fit and 0.90 or greater indicates a good fit (Nunnally & Bernstein, 1994; Schwab, 1980).

In the second step of the construct validation, I conducted factor analysis, which has been most frequently used in construct validation to test the dimensionality of new measures. Confirmatory factor analysis (CFA) is aimed mostly at assessing "the quality of the factor structure by statistically testing the significance of the overall model and of item loadings on factors" (Hinkin, 1995, p.976). In order to run confirmatory factor analysis, I employed R (R Development Core Team, 2014) and JMP (SAS Institute Inc., 2009, 2012). Model fit was assessed via the comparative fit index (CFI), the non-normed fit index (NNFI), incremental fit index (IFI), Standardized Root Mean Square Residual (SRMR), Bentler-Bonnett NFI, and the root-mean-square error of approximation (RMSEA). A good fit is indicated by CFI values of .90 or greater, NNFI close to 1, IFI values of .90 or greater, SRMR values of less than .08, NFI values of .95 or greater, and RMSEA values of less than .08 (Bentler & Bonett, 1980; Browne & Cudeck, 1993).

For discriminant validity, the measure of PFP perceptions should be distinctive in the three dimensions within and also across different types of PFPs (i.e., raises, individual-based

performance bonuses, team-based performance bonuses, divisional-based performance bonuses, or organizational-based performance bonuses). In this study, to support the dimensionality of the measure, chi-square difference tests were used to test discriminant validity. Furthermore, paired *t* tests were also used to test the significance of a difference of each dimension of the three dimensions of PFP perceptions measure across multiple PFPs. This was done to measure how differently and distinctively individuals perceived each dimension of the PFP perceptions measurement in a multiple PFP environment.

Third, using CFA, I assessed convergent validity. Convergent validity is the degree to which the three dimensions of PFP perceptions are significantly associated with each other (Cronbach & Meehl, 1955; Schwab, 1980). To establish convergent validity, the evidence must show that all items loaded should be significant on their hypothesized dimension (Nifadkar, Tsui, & Ashforth, 2012). Thus, each item of the three dimensions of PFP perceptions should be significantly correlated with its hypothesized construct. Fourth, correlation matrices and multiple regressions were used to demonstrate nomological relationships for criterion-related validity.

In sum, based on Cronbach and Meehl's (1955) and Schwab's (1980, 2005) construct validity studies, I examined the construct validity of the measure of PFP plans by examining (1) the reliability of the measure, (2) the dimensionality of the measure and discriminant validity (to see whether constructs that are conceptually distinct should not be related), (3) convergent validity (to see whether constructs that are conceptually related should be related), and (4) criterion-related validity (to measure the relationship between PFP perceptions and employee job attitudes).

CHAPTER VIII

RESULTS

8.1. Descriptive Information

Table 5 presents descriptive statistics and correlations. Tables 6 and 7 report types of PFP plans participants reported that they receive within their organizations. Of the same respondents, I differentiated categories of types of PFP plans: Table 6 is sorted based on PFPs that respondents received and Table 7 shows the number of PFPs that respondents received regardless of the type of other PFPs they also received simultaneously. Table 8 reports the Cronbach's alphas for reliability of measures used in this study.

8.2. Testing the Validity of the Overall PFP Perceptions Measure

To investigate how individuals feel and react to their overall PFPs, I needed to test whether the overall PFP perceptions measure that has been developed in this dissertation is a valid measure. Thus, I tested (1) the dimensionality of overall PFP perceptions, (2) whether the dimensions are distinctive from each other (discriminant validity) to support the dimensionality of overall PFP perceptions, and (3) the association of specific items with each of the other dimensions of the PFP perceptions construct (convergent validity). To test hypotheses 1 and 2, I employed Confirmatory factor analysis (CFA). CFA was conducted on the 12-item measure of overall PFP perceptions. I hypothesized that the construct was composed of three dimensions (instrumentality, expectancy, and valence perceptions). The fit statistics of the hypothesized and alternative models of overall PFP perceptions are presented in Table 9.

Single-factor model. In this step, I specified a one-factor alternative measurement model, consisting of individuals' overall PFP perceptions, where all 12-items loaded on a single factor. The fit indices for the one-factor model were consistently poor. This indicates that it is not

reasonable to conclude that all 12-iems measure a single PFP perceptions construct. The fit statistics for this model were $\chi^2(54, N = 562) = 465.57$, $p < .001$; NNFI = 0.84; NFI = 0.85; IFI = 0.87; CFI = 0.87; RMSEA = 0.12; and SRMR = 0.08.

Two-factor model. I examined two alternative two-factor models. The first alternative two-factor model specified items for instrumentality perceptions as one dimension and as the other dimension consisting of the items for expectancy and valence perceptions (I vs. E, V). The fit indices for the model were $\chi^2(53, N = 562) = 193.13$, $p < .001$; NNFI = 0.94; NFI = 0.94; IFI = 0.95; CFI = 0.95; RMSEA = 0.07; and SRMR = 0.05. The second alternative two-factor model specified items for instrumentality and expectancy perceptions as one dimension and as the other dimension composed of valence perceptions items (I, E vs. V). The fit indices for the model were $\chi^2(53, N = 562) = 318.13$, $p < .001$; NNFI = 0.89; NFI = 0.90; IFI = 0.91; CFI = 0.91; RMSEA = 0.09; and SRMR = 0.07.

Three-factor model. This model includes the three hypothesized PFP perceptions dimensions (instrumentality perceptions, expectancy perceptions, and valence perceptions). The fit indices for the model were $\chi^2(48, N = 562) = 110.82$, $p < .001$; NNFI = 0.97; NFI = 0.96; IFI = 0.98; CFI = 0.98; RMSEA = 0.05; and SRMR = 0.03.

Hypothesis 1 predicted that individuals would differentiate between instrumentality, expectancy, and valence perceptions of their overall PFP plans. Of the four models, the three-factor model fits the data best. The fit statistics indicated that the three-factor model fit the data significantly better than did the alternative one-factor model and the two two-factor models.

With regard to discriminant validity, a chi-square difference test was conducted. Chi-square difference tests "compare fixed and freely estimated two-factor models for all pairs of factors" (Hamann, Schiemann, Bellora, & Guenther, 2013, p.81). The test suggests that

compared constructs are distinctive when two models differ significantly on a chi-square difference test (Bagozzi et al., 1991). Very small p-values of the difference between every two-factor models that were compared indicate that the null hypothesis (either the one-factor model or two two-factor models) should be rejected (Kline, 2011). The result of the chi-square difference test for overall PFP perceptions shows that all factors in the hypothesized model demonstrate discriminant validity (See Table 10). As a result, it suggests that instrumentality, expectancy, and valence perceptions are distinct from one another. Taken together, this provides support for Hypothesis 1.

With regard to convergent validity, Hypothesis 2 predicted that the three dimensions of the overall PPQ construct would be positively associated with one another. CFA was used to assess whether a number of items of the same construct show sufficient levels of covariance (Bagozzi, Yi, & Phillips, 1991). Results are presented in Table 11 and support the hypothesis. Instrumentality perceptions, expectancy perceptions, and valence perceptions of overall PFP perceptions were positively related to each other. There was a range from .67 to .82 for instrumentality; for expectancy, there was a range from .46 to .73; for valence, there was a range from .53 to .84. P-values of all factor loadings were significant at 1% level ($p < 0.01$). Factor loadings of .40 or higher specified in the three-factor models for overall PFP perceptions provided evidence of convergent validity (Spector, 1992). The results suggest that the 12-item measure is a valid measure of PFP perceptions.

8.3. Testing the Validity of Specific Plan PFP Perception Measures: Within-PFP Plan Comparisons

To measure how people perceive PFP plans when covered by more than one PFP plan, I tested the structure of the three dimensions of each particular PFP plan in multi-PFP

environments. Hypotheses 3 and 4 predicted that individuals would differentiate the three dimensions of PFP perceptions of each type of PFP, and that the three dimensions would be interrelated with one another in a situation where employees are offered multiple PFPs. To accurately test the multiple PFPs environments, I sorted seven combinations of multiple PFPs. The combinations are sorted based on PFPs that respondents received regardless of the type of other PFPs they also received simultaneously. The seven combinations of multiple PFPs are (1) raises and individual-based performance bonuses (N = 234), (2) individual-based performance bonuses and team-based performance bonuses (N=180), (3) raises and team-based performance bonuses (N = 128), (4) team-based performance bonuses and organizational-based performance bonuses (N = 97), (5) individual-based performance bonuses and organizational-based performance bonuses (N = 131), (6) raises and organizational-based performance bonuses (N = 106), and (7) raises, individual-based performance bonuses, and team-based performance bonuses (N = 98) (see Table 7). To test the construct validity of specific plan PFP perceptions measures, CFA was conducted on the various 11-item measures, composed of the three hypothesized dimensions (instrumentality, expectancy, and valence perceptions).

8.3.1. Testing the Dimensionality of Specific Plan PFP Perceptions

The CFA results show that the hypothesis tests were largely supported. Of the four models (the one-factor model, two two-factor models, and the three-factor model), the three-factor model statistically fits the data significantly better than did the alternative models in all seven combinations of multiple PFP plans. The fit statistics indicated that the three-factor model fit the data significantly better than did the alternative one-factor model and the two two-factor models.

8.3.1.1. The Combination of Raises and Individual-Based Performance Bonuses (N = 234)

When people are in a situation where raises (merit pay) and individual-based performance bonuses are simultaneously paid, the fit statistics for the three-factor model of raises were $\chi^2(46, N = 234) = 119.53$, $p < .001$; NNFI = 0.93; NFI = 0.91; IFI = 0.94; CFI = 0.94; RMSEA = 0.08; and SRMR = 0.06; and the fit statistics for the three-factor model of individual bonuses were $\chi^2(39, N = 234) = 93.82$, $p < .001$; NNFI = 0.95; NFI = 0.94; IFI = 0.96; CFI = 0.96; RMSEA = 0.08; and SRMR = 0.048. Of the four models (a one-factor model, two two-factor models (I, EV; IE, V), and a three-factor model (I, E, V)), the three-factor model fits the data best (See Table 12). This finding suggests that people differentiate the three dimensions of raises and individual bonuses respectively when they are paid both PFPs at a time.

8.3.1.2. The Combination of Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N=180)

When people are covered by both individual-based performance bonuses and team-based bonuses, the fit statistics for the three-factor model of individual bonuses were $\chi^2(41, N = 180) = 103.46$, $p < .001$; NNFI = 0.91; NFI = 0.89; IFI = 0.93; CFI = 0.93; RMSEA = 0.09; and SRMR = 0.05; and the fit statistics for the three-factor model of team bonuses were $\chi^2(41, N = 180) = 82.86$, $p < .001$; NNFI = 0.95; NFI = 0.93; IFI = 0.96; CFI = 0.96; RMSEA = 0.08; and SRMR = 0.04. This suggests the best fit to the data for each PFP for the three-factor model (see Table 13). It suggests that people clearly differentiate the three dimensions of each type of PFP (individual bonuses and team bonuses) respectively when they are paid with these plans simultaneously.

8.3.1.3. The Combination of Raises and Team-Based Performance Bonuses (N = 128)

When people are paid both raises and team-based performance bonuses, the fit statistics for the three-factor model of raises were $\chi^2(45, N = 128) = 84.71$, $p < .001$; NNFI = 0.93;

NFI = 0.89; IFI = 0.95; CFI = 0.94; RMSEA = 0.08; and SRMR = 0.07; and the fit statistics for the three-factor model of team bonuses were $\chi^2(41, N = 128) = 55.59$, $p < .001$; NNFI = 0.98; NFI = 0.94; IFI = 0.98; CFI = 0.98; RMSEA = 0.05; and SRMR = 0.04. This suggests the best fit to the data for each PFP for the three-factor model (see Table 14). This finding tells us that individuals differentiate instrumentality, expectancy, and valence of raises and team bonuses respectively.

8.3.1.4. The Combination of Team-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 97)

When in a situation where team bonuses and organization bonuses are both paid, the fit statistics for the three-factor model of team bonuses were $\chi^2(39, N = 97) = 55.41$, $p < .001$; NNFI = 0.95; NFI = 0.89; IFI = 0.96; CFI = 0.96; RMSEA = 0.07; and SRMR = 0.05; and the fit statistics for the three-factor model of organization based performance bonuses were $\chi^2(40, N = 97) = 56.65$, $p < .001$; NNFI = 0.95; NFI = 0.88; IFI = 0.96; CFI = 0.96; RMSEA = 0.07; and SRMR = 0.06. This suggests that the model of each PFP was a good fit for the three-factor model (see Table 15). People clearly differentiate the three dimensions of each PFP plan, team bonuses, and organization bonuses respectively when they are paid with these multiple PFP plans.

8.3.1.5. The Combination of Individual-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 131)

When individuals are covered by individual bonuses and organization-based performance bonuses at a time, the fit statistics for the three-factor model of individual bonuses were $\chi^2(40,$

N = 131) = 66.63, p < .001; NNFI = 0.93; NFI = 0.89; IFI = 0.95; CFI = 0.95; RMSEA = 0.07; and SRMR = 0.05; and the fit statistics for the three-factor model of organization based performance bonuses were χ^2(39, N = 131) = 75.73, p < .001; NNFI = 0.94; NFI = 0.91; IFI = 0.96; CFI = 0.96; RMSEA = 0.09; and SRMR = 0.05. This suggests that the model of each PFP was a good fit for the three-factor model (see Table 16).

8.3.1.6. The Combination of Raises and Organization-Based Performance Bonuses (N = 106)

When raises and organization-based performance bonuses are paid simultaneously, the fit statistics for the three-factor model of raises were χ^2(46, N = 106) = 56.21, p < .001; NNFI = 0.98; NFI = 0.90; IFI = 0.98; CFI = 0.98; RMSEA = 0.05; and SRMR = 0.06; and the fit statistics for the three-factor model of organization based performance bonuses were χ^2(39, N = 106) = 72.39, p < .001; NNFI = 0.94; NFI = 0.91; IFI = 0.96; CFI = 0.96; RMSEA = 0.09; and SRMR = 0.05. The fit indices support the superiority of the three-factor model (see Table 17). This suggests that individuals clearly differentiate the three dimensions of each PFP when paid with these PFPs.

8.3.1.7. The Combination of Raises, Individual-Based Performance Bonuses, and Team-Based Performance Bonuses (N = 98)

When people are covered by raises, individual bonuses, and team bonuses at the same time, the fit statistics for the three-factor model of raises were χ^2(45, N = 98) = 72.57, p < .001; NNFI = 0.94; NFI = 0.88; IFI = 0.95; CFI = 0.95; RMSEA = 0.08; and SRMR = 0.06; the fit statistics for the three-factor model of individual bonuses were χ^2(41, N = 98) = 73.81, p < .001; NNFI = 0.90; NFI = 0.85; IFI = 0.93; CFI = 0.92; RMSEA = 0.09; and SRMR = 0.06; and the fit statistics for the three-factor model of team bonuses were χ^2(41, N = 98) = 64.54, p < .001;

NNFI = 0.96; NFI = 0.92; IFI = 0.97; CFI = 0.97; RMSEA = 0.08; and SRMR = 0.05. The fit indices show that the three-factor model was superior to the one-factor and two-factor models (see Table 18). This suggests that individuals clearly differentiate the three dimensions of raises, individual bonuses, and team bonuses respectively, even when covered by at least three PFP plan simultaneously.

8.3.2. Testing the Discriminant Validity of Specific Plan PFP Perception Measures: Within-PFP Plan Comparisons

To measure the dimensionality of the construct, I also tested discriminant validity that all three dimensions of the measure of PFP perceptions for a single PFP would be distinct from one another when other PFPs were considered simultaneously. The chi-square difference tests showed mixed results, depending on combinations of specific PFPs. The three dimensions of each PFP are distinct from one another in some combinations of multiple PFP plans; however, some factors in the hypothesized model in some combinations do not support discriminant validity.

8.3.2.1. The Combination of Raises and Individual-Based Performance Bonuses (N = 234)

In the combination of raises and individual bonuses, the chi-square difference test for individual bonuses was not significant between the three-factor hypothesized model and the two-factor alternative model where the expectancy and valence items were combined into a single dimension (instrumentality, expectancy vs. valence dimensions). The chi-square difference tests, which compared the second alternative two-factor model (IE vs. V) and the hypothesized three-factor model (I, E, V) for individual bonuses when employees were covered by the combination of raises and individual bonuses, was not also significant ($\Delta\chi^2(2) = 3.29$, $p = 0.096$) (see Table

19). This suggests that individuals did not clearly distinguish between instrumentality and expectancy when they received individual bonuses and team bonuses simultaneously.

8.3.2.2. The Combination of Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N=180)

When subjects had the combination of individual bonuses and team bonuses, the chi-square difference test for individual bonuses was not significant between the one-factor model and the first two-factor (I vs. EV) alternative model ($\Delta\chi^2(1) = 2.59$, $p = 0.068$). The chi-square difference test for individual bonuses was not also significant between the second two-factor alternative model (I, E vs. V) and the hypothesized three-factor model ($\Delta\chi^2(2) = 4.29$, $p = 0.059$). In the same combination of the individual bonuses and team bonuses, the chi-square difference test for team bonuses was not significant between the one-factor model and the first two-factor model (I vs. EV) ($\Delta\chi^2(1) = 2.59$, $p = 0.068$). In addition, the chi-square difference test for team bonuses was not significant between the second two-factor alternative model (IE vs. V) and the hypothesized three-factor model ($\Delta\chi^2(2) = 4.29$, $p = 0.059$) (See Table 20).

8.3.2.3. The Combination of Individual-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 131)

When subjects had combination of individual bonuses and organization bonuses (See Table 23), the chi-square difference test for individual bonuses was not significant between the one-factor model and the first two-factor (I vs. EV) alternative model ($\Delta\chi^2(1) = 0.02$, $p = 0.89$).

8.3.2.4. The Combination of Raises, Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N = 98)

When subjects possessed the combination of raises, individual bonuses, and team bonuses, the chi-square difference test for individual bonuses was not significant between the

one-factor model and the first two-factor (I, EV) alternative model ($\Delta\chi^2(1) = 0.14$, p = 0.99). With the same combination of PFP plans, the chi-square difference test for individual bonuses was not also significant between the first two-factor model (IE, V) and the three-factor model ($\Delta\chi^2(2) = 0.44$, p = 0.44) (See Table 25).

The results of chi-square difference tests within PFPs suggest that instrumentality, expectancy, and valence perceptions within a specific PFP are most likely to be differentiated empirically in multiple PFP environments. However, the three dimensions of some PFPs, mostly individual bonuses, are not differentiable when in combination with some combinations of various PFPs. The results provide partial evidence of discriminant validity for the three dimensions for each PFP plan. Thus, Hypothesis 3 was partially supported, as the results of CFA and chi-square difference tests provide mixed evidence.

8.3.3. Testing the Convergent Validity of Specific Plan PFP Perception Measures: Within-PFP Plan Comparisons

Hypothesis 4 predicted that the three dimensions of the measure of PFP perceptions for each of the PFP perception measures would be positively associated with one another. The results of the standardized factor loadings for the three-factor model of the seven combinations of multiple PFPs are presented in Tables 26-32 and support the hypothesis.

8.3.3.1. The Combination of Raises and Individual-Based Performance Bonuses (N = 234)

In the combination of raises and individual-based performance bonuses, for instrumentality of raises, there was a range from .73 to .88; for expectancy, there was a range from .65 to .78; for valence, there was a range from .55 to .77. For individual bonuses in the combination of raise and individual bonuses, for instrumentality, there was a range from .77 to

.84; for expectancy, there was a range from .65 to .77; for valence, there was a range from .71 to .81 (See Table 26).

8.3.3.2. The Combination of Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N=180)

In the combination of individual bonuses and team bonuses, for instrumentality of individual bonuses, there was a range from .54 to .73; for expectancy, there was a range from .69 to.79; for valence, there was a range from .66 to .76. For team bonuses in the combination of individual bonuses and team bonuses, for instrumentality, there was a range from .58 to .83; for expectancy, there was a range from .75 to .84; for valence, there was a range from .70 to .79 (See Table 27).

8.3.3.3. The Combination of Raises and Team-Based Performance Bonuses (N = 128)

In the combination of raises and team bonuses, for instrumentality of raises, there was a range from .73 to .84; for expectancy, there was a range from .66 to .87; for valence, there was a range from .68 to .75. For team bonuses in the combination of raise and team bonuses, for instrumentality, there was a range from .67 to .81; for expectancy, there was a range from .72 to .83; for valence, there was a range from .76 to .86 (See Table 28).

8.3.3.4. The Combination of Team-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 97)

In the combination of team bonuses and organizational bonuses, for instrumentality of team bonuses, there was a range from .61 to .79; for expectancy, there was a range from .69 to .80; for valence, there was range from .62 to .77. For organizational bonuses in the combination of team bonuses and organizational bonuses, for instrumentality, there was a range from .64 to

.79; for expectancy, there was a range from .62 to .80; for valence, there was a range from .58 to .71 (See Table 29).

8.3.3.5. The Combination of Individual-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 131)

In the combination of individual bonuses and organizational bonuses, for instrumentality of individual bonuses, there was a range from .48 to .83; for expectancy, there was a range from .47 to .84; for valence, there was a range from .62 to .71. For organizational bonuses, for instrumentality, there was a range from .75 to .87; for expectancy, there was a range from .74 to .84; for valence, there was a range from .59 to .74 (See Table 30).

8.3.3.6. The Combination of Raises and Organization-Based Performance Bonuses (N = 106)

In the combination of raises and organizational bonuses, for instrumentality of raises, there was a range from .75 to .85; for expectancy, there was a range from .68 to .76; for valence, there was a range from .52 to .76. For organizational bonuses in the combination of raise and organizational bonuses, for instrumentality, there was a range from .80 to .87; for expectancy, there was a range from .72 to .85; for valence, there was a range from .63 to .82 (See Table 31).

8.3.3.7. The Combination of Raises, Individual-Based Performance Bonuses, and Team-Based Performance Bonuses (N = 98)

In the combination of raises, individual bonuses, and team bonuses, for instrumentality of raises, there was a range in correlations from .77 to .82; for expectancy, there was a range from .71 to .84; for valence, there was a range from .64 to .80. For individual bonuses in the same combination, for instrumentality, there was a range in the correlations from .68 to .71; for expectancy, there was a range from .71 to .75; for valence, there was a range from .66 to .73. For

team bonuses, for instrumentality, there was a range from .74 to .81; for expectancy, there was a range from .82 to .84; for valence, there was a range from .76 to .87 (See Table 32).

The results show that all the standardized factor loadings of respective items exceed .40 in the three-factor models for PFP perceptions of specific types of PFPs in the seven combinations of multiple PFPs. The results indicate that the three dimensions of each PFP in a situation where multiple PFPs are provided simultaneously are positively associated with one another (Spector, 1992). Thus, Hypothesis 4 was supported.

8.4. Across-PFP Plan Comparisons

As another way to investigate how individuals perceive PFP plans when covered by various PFP plans, I examined comparisons of each dimension of the three dimensions of the PFP perceptions across multiple PFPs. For this set of comparisons, I examined if individuals distinguished between the sources of each key dimension (I, E, or V) when each PFP plan was compared with the other co-existing PFP plans. Second-order CFAs and paired *t* tests were used to assess the convergent validity and discriminant validity of the PFP perceptions measures in the seven combinations of types of PFP plans (Tables 33-54). All factor loadings were statistically significant ($P < .001$).

8.4.1. Instrumentality

Hypothesis 5 predicted that the level of instrumentality for individual-level PFP plans would be higher than the level of instrumentality for group-level PFP plans. The results are reported in Tables 34, 35, 37, 38 and 54.

8.4.1.1. The Combination of Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N = 180)

As shown in Table 34, in the combination of individual bonuses and team bonuses, the magnitude of the standardized factor loading of instrumentality for individual bonuses (average loading: 0.97) was larger than the magnitude of the standardized factor loadings for team bonuses (average loading: 0.30). Similarly, the result of the paired *t* tests shows that there was a significant difference in the level of instrumentality for individual bonuses and team bonuses (M=5.59, SD=1.09; M=5.34, SD=1.17, $p<0.001$, respectively) (See Table 54).

8.4.1.2. The Combination of Raises and Team-Based Performance Bonuses (N = 128)

When raises and team bonuses were given, the magnitude of the standardized factor loading of instrumentality for raises (average loading: 0.89) was larger than the magnitude of the standardized factor loadings for team bonuses (average loading: 0.70) (See Table 38). Also, the paired *t* tests show that there was greater instrumentality for raises than for team bonuses (M=5.51, SD=1.20; M=5.33, SD=1.25, $p<0.05$, respectively).

8.4.1.3. The Combination of Individual-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 131)

In the combination of individual bonuses and organization bonuses, the size of the standardized factor loading of instrumentality for individual bonuses (average loading: 0.85) was larger than the size of the standardized factor loadings for organization-based performance bonuses (average loading: 0.66) (See Table 40). The paired *t* tests show that there were significantly greater levels of instrumentality for individual bonuses than for organization bonuses (M=5.45, SD=1.23; M=5.12, SD=1.38, $p<0.001$).

8.4.1.4. The Combination of Raises and Organization-Based Performance Bonuses (N = 106)

When raises and organization bonuses were provided, the size of the standardized factor loading of instrumentality for raises (average loading: 0.91) was larger than the size of the standardized factor loadings for organization-based performance bonuses (average loading: 0.66) (See Table 41). Similarly, the paired *t* tests show that the level of instrumentality for raises was greater than the level for team bonuses (M=5.33, SD=1.28; M=5.07, SD=1.41, $p<0.05$, respectively).

The results of CFAs and the paired *t* tests support Hypothesis 5. As predicted, the level of instrumentality for individual-level PFP plans, such as raises and individual bonuses was higher than the level of instrumentality for group-level PFP plans, such as team bonuses and organization bonuses. When they are provided both an individual-level PFP and a group-level PFP together, people tend to more strongly perceive the link between pay and performance (instrumentality). The findings show that the levels of instrumentality are different depending on the level of the performance metric (individual or group-level incentives).

8.4.2. Expectancy

Hypothesis 6 predicted that the level of expectancy for individual-level PFP plans would be higher than the level of expectancy for group-level PFP plans when people are provided both PFP rewards. Results are presented in Tables 41, 42, 44, 45, and 54.

8.4.2.1. The Combination of Raises and Team-Based Performance Bonuses (N = 128)

CFA results also showed that the size of the standardized factor loading of expectancy for raises (average loading: 0.75) was larger than the size of the standardized factor loadings for team-based performance bonuses (average loading: 0.65) when raises and team bonuses were given (See Table 42). The level of expectancy for raises was higher than the level of expectancy

for team bonuses (M=5.62, SD=1.07; M=5.46, SD=1.10, $p<0.05$, respectively) in paired comparisons.

8.4.2.2. The Combination of Individual-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 131)

In the combination of individual bonuses and organization bonuses, the size of the standardized factor loading of expectancy for individual bonuses (average loading: 0.87) was larger than the size of the standardized factor loadings for organization-based performance bonuses (average loading: 0.68) (See Table 44). The level of expectancy for individual bonuses was higher than the level of expectancy for organization bonuses (M=5.59, SD=0.98; M=5.25, SD=1.23, $p<0.001$, respectively) in paired comparisons.

8.4.2.3. The Combination of Raises and Organization-Based Performance Bonuses (N = 106)

When raises and organization bonuses were provided, the size of the standardized factor loading of expectancy for raises (average loading: 0.99) was larger than the size of the standardized factor loadings for organization-based performance bonuses (average loading: 0.72) (See Table 45). The level of expectancy for raises was higher than the level of expectancy for organization bonuses (M=5.49, SD=1.11; M=5.25, SD=1.27, $p<0.01$, respectively) in paired comparisons.

8.4.2.4. The Combination of Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N = 180)

Interestingly, the results of the paired *t* tests and the CFA testing for the level of expectancy in the combination of individual bonuses and team bonuses were not consistent. The level of expectancy for individual bonuses was higher than the level of expectancy for team

bonuses (M=5.59, SD=1.02; M=5.43, SD=1.08, $p<0.05$, respectively) in paired comparisons. However, the CFA result showed that the size of the standardized factor loading of expectancy for individual-based performance bonuses (average loading: 0.74) was smaller than the size of the standardized factor loadings for team-based performance bonuses (average loading: 0.76) when individual bonuses and team bonuses were provided (See Table 41).

As predicted, people felt more strongly the link between their own efforts and their performance (expectancy) for individual-level PFP plans than for group-level PFP plans when they were given multiple PFPs, except when people were covered by both individual bonuses and team bonuses. Thus, the results mostly support Hypothesis 6.

8.4.3. Valence

Hypothesis 7 predicted that the level of valence for raises would be higher than the level of valence for team bonuses and organization bonuses. Results are presented in Tables 48, 49, 51, 52, and 54.

8.4.3.1. The Combination of Individual-Based Performance Bonuses and Team-Based Performance Bonuses (N = 180)

CFA results show that the size of the standardized factor loading of valence for individual-based performance bonuses (average loading: 0.93) was larger than the size of the standardized factor loadings for team-based performance bonuses (average loading: 0.66) when individual bonuses and team bonuses were provided (See Table 48). Similarly, the result of the paired *t* tests shows that there was a significant difference in the level of valence for individual bonuses and team bonuses (M=5.67, SD=0.93; M=5.51, SD=1.06, $p<0.01$, respectively) (See Table 54). This indicates that the level of valence for individual bonuses was higher than the level of valence for team bonuses.

8.4.3.2. The Combination of Raises and Team-Based Performance Bonuses (N = 128)

When raises and team bonuses were given, the size of the standardized factor loading of valence for raises (average loading: 0.95) was larger than the size of the standardized factor loadings for team-based performance bonuses (average loading: 0.57) (See Table 49). The result of the paired *t* tests shows that level of valence for raises was greater than the valence for team bonuses (M=5.78, SD=1.05; M=5.49, SD=1.13, $p<0.001$, respectively) (See Table 54).

8.4.3.2. The Combination of Individual-Based Performance Bonuses and Organization-Based Performance Bonuses (N = 131)

In the combination of individual bonuses and organization bonuses, the size of the standardized factor loading of valence for individual bonuses (average loading: 0.91) was larger than the size of the standardized factor loadings for organization-based performance bonuses (average loading: 0.60) (See Table 51). Likewise, the result of the paired *t* tests shows that the level of valence for individual bonuses was greater than the level of valence for organization bonuses (M=5.63, SD=0.96; M=5.37, SD=1.15, $p<0.001$, respectively) (See Table 54).

8.4.3.3. The Combination of Raises and Organization-Based Performance Bonuses (N = 106)

When raises and organization bonuses were provided, the size of the standardized factor loading of valence for raises (average loading: 0.99) was larger than the size of the standardized factor loadings for organization-based performance bonuses (average loading: 0.49) (See Table 52). Similarly, the result of the paired *t* tests shows that there was a significant difference in the level of valence for raises and organization bonuses (M=5.69, SD=1.04; M=5.37, SD=1.20, $p<0.001$, respectively) (See Table 54). This result indicates that the level of valence for raises was higher than the level of valence for organization bonuses.

As predicted, the level of valence for individual-level PFP plans (raises and individual bonuses) was higher than the level of valence for group-level PFP plans (team bonuses and organization bonuses). Thus, these results support Hypothesis 7.

8.5. Criterion-Related Validity

8.5.1. Testing the Criterion-Related Validity of Overall PFP Perception Measures

Hypotheses 8 through 12 predicted that overall PFP perceptions would be positively related to various employee attitudes and behaviors. I first tested these hypotheses by examining the correlation between overall PFP perceptions and the various outcomes.

Hypothesis 8 predicted that individuals' overall PFP perceptions would be positively related to pay satisfaction. This hypothesis was supported (see Table 5), with individuals' PFP perceptions being significantly positively related to pay satisfaction ($r = .68$, $p < .05$). Hypothesis 9 predicted that individuals' overall PFP perceptions would be positively related to job satisfaction. The hypothesis was supported, with PFP perceptions being significantly positively associated with job satisfaction ($r = .64$, $p < .05$) (see Table 5).

Hypothesis 10 predicted that overall PFP perceptions would be positively associated with affective organizational commitment, and it was supported. PFP perceptions were also significantly positively related to affective organizational commitment ($r = .58$, $p < .05$) (see Table 5). Hypothesis 11 predicted that overall PFP perceptions would be positively related to trust in supervisors and trust in top management. This hypothesis was supported, in that individual PFP perceptions were significantly positively related to trust in both supervisors ($r = .50$, $p <.05$) and top management ($r = .47$, $p < .05$) (see Table 5). Finally, Hypothesis 12 predicted that individuals' overall PFP perceptions would be negatively related to turnover

intentions. This hypothesis was supported: Individuals' PFP perceptions were significantly negatively related to turnover intentions ($r = -.37$, $p < .05$) (see Table 5).

Multiple regressions were also conducted to confirm the criterion-related validity (see Tables 55 and 56). As predicted, the overall PFP perceptions construct was significantly positively related to pay satisfaction, job satisfaction, affective organizational commitment, and trust in supervisor (see Table 55). Note that the results of multiple regression analyses showed that individuals' PFP perceptions were not significantly positively related to trust in top management and were not significantly negatively related to turnover intentions when pay satisfaction was controlled for. The findings support full mediation of pay satisfaction in the relationship between PFP perceptions and trust in supervisor, between PFP perceptions and trust in top management, and between PFP perceptions and turnover intentions. As has been shown in previous research showed (Heneman & Schwab, 1979; Heneman et al., 1988; Williams et al., 2006), the findings in this dissertation also suggest that PFP perceptions and pay satisfaction have a direct and strongly positive relationship, and PFP perceptions are a strong determinant of pay satisfaction.

8.5.2. Testing the Criterion-Related Validity of Specific Plan PFP Perception Measures

Hypotheses 13a through 13d predicted that PFP perceptions of specific types of PFPs (raises, individual bonuses, team bonuses, and organization bonuses) would be positively associated with their associated satisfaction. Multiple regressions were used to assess the criterion-related validity of PFP perceptions of specific types of PFPs. These results are reported in Table 56. All specific types of PFP perceptions constructs were significantly positively related to their associated satisfaction constructs (all at $p < .001$). Thus, Hypotheses 13a through 13d were supported.

CHAPTER VIIII

DISCUSSION

9.1. General Discussion

Compensation plays a critical role in maintaining and enhancing the motivation of employees. Pay for performance (PFP) compensation systems have become one of the most effective human resources tools for motivating certain kinds of behaviors, including job performance (Gerhart et al., 2009). PFP plans increase an organization's overall productivity by attracting and retaining more talented employees and by inducing employees to increase their efforts (Cadsby et al., 2007; Gerhart & Rynes, 2003; Gerhart et al., 2009; Jenkins et al., 1998; Lawler, 1971). Despite researchers' emphasis on this, when the literature measures the effectiveness of PFP, a wide gap is revealed as separating theory from practice (Gerhart et al., 2009; Rynes et al., 2005). There are a number of reasons for the gap. First, most compensation research has only considered a single PFP plan at a time; second, methodological means are used to approximate the link between pay and performance; third, research has only typically used a single-dimensional measure of PFP perceptions when actually trying to measure individuals' reactions toward their PFP plans; and fourth, when the effectiveness of PFP plans is measured, the research has not explicitly considered how individuals feel and react to all of the forms of PFP that they receive. It is important not only for theory to develop and extend the correct measurement with a clear definition to better measure and explain the effects of PFPs on retention, sorting, and other various outcomes, it is also important for industries to find answers so as to be able to structure and apply compensation systems.

The key concept of PFPs is to pay people to motivate them to higher performance, and currently, many organizations provide multiple PFPs. Given these two factors, it is critical to

understand how employees perceive PFP plans, particularly when they are paid in a multi-PFP plan environment. Correctly measuring the effectiveness of PFPs was the motivation behind this study's efforts to define this construct, perform a construct validation test, and explore the conceptual dimensions of individual PFP perceptions. This dissertation provides an initial step toward developing and validating a multidimensional measure of individual PFP perceptions of multi-PFP plan environments. Its objective is to give insights into how people perceive PFP plans when in multi-PFP environments. Employee-attitude data drawn from different job types and organizations provide tests across multiple PFP environments and lead to substantiation of the convergent, discriminant, and criterion-related validity of the measurement model of the hypothesized three dimensional measure.

Overall, the findings support the psychometric properties (reliability, validity, and nomological network) of the PFP perceptions measurement. The results show that people form complex conceptualizations of a PFP when in multiple PFP environments, as suggested by traditional and contemporary motivational theories. Quite clearly, people do not conceptualize PFP simply, one-dimensionally, or in relation to only one factor. The validation tests support the distinct perceptions of instrumentality, expectancy, and valence as being critical dimensions of the individuals' PFP perceptions. The convergent and discriminant validity tests show three related but distinct PFP perception dimensions of overall PFPs. These were largely supported when comparisons were made within a single PFP plan and across multiple PFPs. In other words, the validity testing supports the uniqueness of the PPQ overall and within PFPs, and that more than one dimension of PFP perceptions should exist simultaneously when testing the effectiveness of PFPs across multiple PFPs.

On the other hand, not all the predictions were supported. In particular, for some PFPs,

the hypothesized difference among the three dimensions of PFP perceptions were not supported. When employees were covered by multiple PFPs, people perceived the three dimensions of each received PFP a bit differently in some combinations of PFPs. As the results show, individuals who received simultaneously both raises (merit pay) and individual-based performance bonuses, which are both individual-level performance rewards, clearly perceived the three dimensions of raises. In contrast, for the individual bonuses plans, they did not distinctively distinguish between instrumentality and expectancy, although they did perceive the valence dimension of PFP perception for individual-based bonuses.

Interestingly, employees who received individual-based performance bonuses and team-based performance bonuses simultaneously perceived the valence dimensions of the PFP perceptions clearly, but did not distinguish between the other two dimensions–instrumentality and expectancy–for each PFP. The results showed that individuals did not recognize these two dimensions clearly when the model that has instrumentality and expectancy as one dimension and the other model that has instrumentality and expectancy as two separate dimensions were compared.

People who received individual-based performance bonuses and organization-based performance bonuses did not clearly differentiate between the instrumentality and expectancy dimensions of individual-based performance bonuses even though they clearly recognized the valence dimension for each specific PFP.

Finally, individuals who simultaneously received raises, individual-based bonuses, and team-based bonuses differentiated the valence dimensions of each PFP even though they did not distinctively differentiate either the instrumentality or expectancy dimensions of individual-based performance bonuses. The results may suggest that, while people clearly differentiate the

three distinct but related dimensions for their PFP plans in general, there are limits to how much they recognize some dimensions. This seems most notable for the instrumentality and expectancy dimensions, when they are covered by multiple PFPs simultaneously. This suggests that the link between their own efforts and performance and the link between their achieved performance and each type of PFP plan can be confusing and unclear to employees. But, valence-the subjective attractiveness of a reward which is often based on the size of a reward-clearly is distinguished by people. This is an intriguing finding, as previous research has argued that people tend to focus on the instrumentality of pay systems, paying little attention to the valence of pay outcomes under different pay systems (See Gerhart et al., 1995). Yet with the multiple pay forms, the findings show that people do perceive differences in the valence of pay outcomes.

The findings from across PFPs comparisons show that the perceived link between pay and performance, between an individual's own efforts and the required performance to attain rewards, and the subjective attractiveness of rewards differ depending on the level of the performance metric (individual or group level incentives). As predicted, people differentiate between types of PFP rewards, and react more to individual-level PFP rewards. The line of sight problem, raised by Lawler (1971) and echoed by Boswell and Boudreau (2001), was validated here. That is, when individuals are less able to see the link between their own efforts and the goals they must achieve, they perceive lower levels of instrumentality, expectancy and valence for the group-oriented PFP plans. In addition, the results show that people perceive each of the three dimensions differently when they are covered by multiple PFPs. Employees clearly differentiated the instrumentality, expectancy, and valence of the individual-based performance PFPs but did not differentiate between group-based performance PFPs. This suggests that

individuals may be more reactive to their individual incentives than group incentives due to their being unable to clearly see the links between their efforts, performance, and rewards for team-based incentives. The findings from the across-PFPs comparisons show that individuals value rewards distinctively and differently among multiple PFPs.

Finally, the results from the criterion-related validation testing show that individuals' PFP perceptions are significantly associated with key attitudes and behaviors. This confirms that PFP perceptions play a significant role in critical employee relationships including pay satisfaction, job satisfaction, affective organizational commitment, trust in supervisor/top management, and turnover intentions. In addition, the results also find that PFP perceptions of specific types of PFPs are significantly and positively related to the associated satisfaction. The results support the nomological network of the PFP perceptions measurement.

9.2. Theoretical Implications

Motivational theories were used as a basis for the dimensional structure of the measurement. Those theories have strongly supported the underlying mechanisms of PFP plans regarding the extent to which financial rewards can motivate employees to higher performance and the desirable behaviors that organizations expect. Situations have become, for both organizations and employees, more multifaceted due to organizations providing more complex compensation system environments and employees being covered by multiple PFP plans. Future compensation research needs to consider more carefully the effectiveness of PFPs. Indeed, each PFP has a different form and set of characteristics, and all of the different combinations of multiple PFPs that organizations provide will have relative effects on various important outcomes. Of course, employees have to face more complex decision-making and motivation processes. Theoretically, this should be a very different set of dynamics to explore than what has

been the focus of previous research. In multi-PFP environments, the same single PFP plan (namely, PFPs with the same name, like merit pay or bonuses) will work differently than what prior work has found to work in a single PFP condition. As suggested by temporal motivational theory, there are many other factors that compensation literature ought to consider.

This dissertation takes the initiative to consider various important aspects that people may perceive when involved in multiple PFPs. When looking at the construct of PFP perceptions, it is very easy to be confused between the measurement of work motivation and PFP perceptions. Both work motivation and PFP perceptions are based on motivational theories, and are thus highly related. For example, the classical motivation model that Lawler (1971) developed, based on expectancy theory (Vroom, 1964), is composed of three essential perceptions: (1) the effort-to-performance expectancy ($E \rightarrow P$), (2) the combination of the performance-to-outcomes expectancy ($P \rightarrow O$) and valence (V), and (3) instrumentality (I). With the three dimensions, the model explains how pay influences human behavior. The most regularly used measurement of PFP perceptions (Perry & Pearce, 1983) included the same motivational perceptions (the three components of expectancy theory) to measure PFP perceptions (even though subsequent research only adapted a single dimension from it). In a similar vein, Fong and Shaffer (2003) used the three dimensions focused on in this study as predictors of pay satisfaction when they tested how group incentive plans affected employee pay satisfaction. They adapted the same measurement of PFP perceptions (Heneman et al., 1988: adopted and modified from Perry & Pearce, 1983; Perry & Pearce, 1983) that other compensation studies had used, but they created two sub-scales–instrumentality perceptions and expectancy perceptions–which are also interchangeably used in other studies (e.g., Ilgen et al., 1981) when "work motivation" is measured. In this dissertation, the sub-dimensions of the construct of PFP perceptions – instrumentality,

expectancy, and valence perceptions–are used to focus on PFP perceptions. As such, the three dimensions that I developed for PFP perceptions are interrelated and influence one another to shape individuals' subjective perceptions of PFP plans. In other words, employees may form the belief that their efforts will lead to good performance once they find out the financial rewards they are to receive. Then employees may form the belief that their good performance will lead to the attainment of PFP rewards. Also, the perceived link between pay and performance and the attractiveness of financial rewards may form subjective PFP perceptions.

As the primary concept of PFP is derived from motivational theories, and in particular, from expectancy theory, it is very reasonable that those motivational perceptions are being used to measure individual perceptions of PFP plans. This dissertation is based on both traditional and contemporary motivational theories that have already established a theoretical framework for understanding an overall PFP system and its important role in employee motivation. The dissertation contributes over this prior work, however, to embrace the theoretical and practical complexities found in current PFP environments by developing a measure of PFP perceptions.

This dissertation theoretically contributes to the compensation literature by showing results that differ from what previous research has argued. First, this study identified three factors that people clearly differentiate between when they perceive their PFPs, even when they are covered by multiple PFPs. Prior research has considered only one factor–the relationship between pay and performance–when measuring the effectiveness of PFP plans. Not only has this been an oversimplification of how people perceive a simple PFP plan, it also fails to represent aspects of instrumentality, expectancy, and valence that most employees are experiencing because they have such perceptions from other PFP plans that were not being considered.

Second, this dissertation recognizes the importance of measuring individuals' perceptions

toward multiple PFPs by identifying the complexity of pay environments that current organizations face. It expands on prior compensation theory in order to consider the implications of multiple pay plans being implemented simultaneously. While some previous studies examined the effect of multiple PFPs, they did not explicitly assess individual perceptions of the PFP plans. This study does indeed explore how people perceive PFPs when in a multiple PFP environment. In particular, this dissertation provides a closer look at various PFPs in seven combinations. The results support previous PFP research that has found that different PFP plans have different forms and characteristics. This tells us that future research should consider a more sophisticated theory and approach to multiple PFP environments when testing the effectiveness of PFPs. This dissertation also provides some explanation for the mixed results that previous research has put forward. Depending on the combination of different multiple PFPs, some PFP plans can be effective or ineffective.

Third, this dissertation provides a thorough definition of PFP perceptions that can be applied to various types of PFPs. This study also provides a validated measure that corresponds to current theories and compensation systems. The findings will thus lead to advances in the current understanding of the effectiveness of PFP plans under complex compensation systems and to an exploration of various important relationships related to PFPs that have not yet been investigated.

Fourth, prior work has suggested that, "generally speaking, pay systems differ most in their impact on instrumentality…valence of pay outcomes should remain the same under different pay systems" (Gerhart et al., 1995, p.531). However, this study shows that individual PFP perceptions of multiple PFPs had the strongest impact on valence perceptions among the three dimensions. The findings show that people do pay attention to the subjective attractiveness

of PFPs under different pay systems, clearly distinguishes valence both within and across PFP plans, and express different levels of valence for different PFP plans.

9.3. Practical Implications

Employee compensation is the largest single cost for many organizations, and PFP plans in organizations continue to grow and spread. Recent compensation surveys show that approximately 90 percent of companies plan to continue offering performance-based awards to their employees in the coming year (Miller, 2012; Worldatwork salary budget survey, 2013). Furthermore, it is very common today for organizations to provide their employees with more than one type of PFP. As many organizations are focusing more on PFP plans, implementing a single or multiple PFP plan(s) is not a differentiator among organizations.

So far, many organizations have focused only on measuring the costs of PFP plans (e.g., Nyberg, 2010). If organizations fail to measure how their PFP plans are perceived by employees, companies may fall into the trap of not measuring the true returns on money spent for PFP plans. Thus, it is a significant endeavor for practitioners to explore research on measuring how employees truly value their multiple PFP plans within an organization.

This dissertation suggests several important implications for practice. First, the findings show that employees do differentiate their feelings and reactions among their multiple PFPs. With knowledge of this finding, organizations may make more informed decisions about how much and how many differentiated PFP plans they provide to employees when considering the design of their compensations systems. Companies should avoid bombarding employees with multiple rewards without considering their employees' reactions to the PFP plans.

Second, the results of this dissertation raise interesting questions about the use of individual-based performance bonuses. The findings show that people were less able to clearly

recognize between instrumentality (the link between pay and performance) and expectancy (the alignment between their own efforts and their performance), especially for individual-based performance bonuses, when they were in some combinations of multiple PFP plans. Companies may prefer to pay individual-based performance incentives due to the suggested incentive effects (e.g., Nyberg et al., in press) or their unique characteristics (e.g., Park & Sturman, 2013). The results of this dissertation, however, show that individual-based performance bonuses may get scant attention if they are provided along with other PFP plans. This suggests that such bonuses require a stronger link between PFPs and individuals' belief that their efforts lead to greater achievements, compared to other types of PFP plans.

9.4. Limitations and Future Research Directions

Like all research, this study is not without limitations. First, data from a single resource (Mturk) limits the generalizability of the findings. The data provided excellent evidence by measuring a variety of simultaneous and multiple combinations of PFP environments among different organizations. Yet, this paper was not able to address the dynamics of individual perceptions of certain PFP plans under the same organization context. Given that the main goal of PFP is to enhance individual performance, it is critical for both researchers and practitioners to examine how the individual perceptions of their pay plans affect their future performance (incentive effects) and/or voluntary turnover (sorting effects) within an organization.

Second, from a theoretical and methodological perspective, this study is also limited by the cross-sectional data to develop and validate the measurement of the PFP perceptions. One of the most important components in temporal motivational theory is time. People change their attitudinal perceptions and behaviors over time, which affects decision-making and motivation in

complex and uncertain environments. This study was unable to test cause-effect inferences, namely the relationship between pay and performance through individual perceptions.

Future research should address the limitations inherent in this dissertation of the PFP perceptions in complex pay system environments. First, future research should address the generalizability of the measurement of PFP perceptions in more diverse samples and organizational settings across countries. Given different characteristics of individuals, jobs, organization types, and cultures, conceptual factors may make people react differently to their PFPs. For example, future research should examine the effects of risk-aversion for individuals in PFP perceptions (Cadsby et al., 2007; Eisenhardt, 1989). People who are risk averse with respect to pay and people with low risk aversion may react differently (Cable & Judge, 1994; Deckop, Merriman & Blau, 2004). Second, future research should examine a more comprehensive nomological network of PFP effectiveness by exploring more in-depth relationships between PFP perceptions and various key employee attitudinal variables. Prior HR and OB research has repeatedly suggested that compensation systems play significant roles in employment relationships, including shaping individual attitudes, behavior, and organizational cultures and values. With the new valid measure of PFP perceptions (PPQ), future research should further explore a broader set of consequences of multiple PFP plans and the nomological network of PFP with other key HR practices and OB outcomes.

9.5. Conclusion

This dissertation has developed and validated a theoretically-based multi-dimensional measure of individual PFP perceptions that is applicable in complex pay system environments. Using online survey data, this study confirmed the three dimensions associated with pay for performance plans, and it assessed individual feelings and reactions to individuals' multiple PFP

plans. In environments of complex PFP plans, employees generally distinguish between aspects of PFP plans and across PFP plan types. The separate effects of the elements of PFP plans suggest a need to recognize the complexity of pay environments in order to better understand HR practices in organizations. These findings contribute to the compensation literature and provide practical implications for current organizations regarding the effectiveness of PFP plans. The findings may also provide a sophisticated story in terms of how the effects of PFP should be measured correctly for precise theory testing. The newly developed and validated measurement should be useful for studying modern compensation systems.

Table 3. Item Development of Pay-For-Performance Perceptions

Dimensions	Items
Instrumentality perceptions	1. I believe that my company pays for performance. 2. If I perform especially well on my present job, I will get financial rewards. 3. The best workers in my organization get financially rewarded. 4. High performers and low performers certainly get different financial rewards in my organization. 5. I can see a clear link between my performance and financial rewards provided by my organization. 6. I believe that current financial rewards plans in my organization are achievable.
Expectancy perceptions	1. I believe I can successfully improve my performance when I make more effort. 2. In the past, I was able to achieve the performance goals set by my organization/my supervisor. 3. I believe that I can do the work that is required to achieve financial rewards in my organization.
Valence perceptions	1. I believe financial rewards motivate me to reach the performance goals set by my organization/my supervisor. 2. I am motivated by financial rewards. 3. Financial rewards are very important to me.

Table 4. Items by Different Types of PFP Plans

Types of PFP plans	Items
Raises (Merit pay plans)	**Instrumentality perceptions** R1. If I perform especially well on my present job, I will get a pay raise. R2. The best workers in my organization get the highest pay raises. R3. High performers and low performers certainly get different pay raises in my organization. R4. I can see a clear link between my performance and pay raises provided by my organization. **Expectancy perceptions** R5. I believe I can get a pay raises when I make more effort. R6. I believe that the performance measures used to determine my pay raise are achievable. R7. I believe that I can do the work that is required to achieve a pay raises in my organization. **Valence perceptions** R8. I value pay raises to motivate me to improve my job performance. R9. I believe pay raises motivate me to reach the performance goals set by my organization/my supervisor. R10. Getting pay raises is important for me to be motivated. R11. I value pay raises.

Individual-based performance bonuses	**Instrumentality perceptions** B1. If I perform especially well on my present job, I will get individual-based performance bonuses. B2. The best workers in my organization get the highest individual-based performance bonuses. B3. High performers and low performers certainly get different individual-based performance bonuses in my organization. B4. I can see a clear link between my performance and individual-based performance bonuses provided by my organization. **Expectancy perceptions** B5. I believe I can get individual-based performance bonuses when I make more effort. B6. I believe that the performance measures used to determine my individual-based performance bonuses are achievable. B7. I believe that I can do the work that is required to achieve individual-based performance bonuses in my organization. **Valence perceptions** B8. I value individual-based performance bonuses to motivate me to improve my job performance. B9. I believe individual-based performance bonuses motivate me to reach the performance goals set by my organization/my supervisor. B10. Getting individual-based performance bonuses is important for me to be motivated. B11. I value individual-based performance bonuses.
Team performance-	**Instrumentality perceptions** TB1. If I perform especially well on my present job, I will get team-performance based bonuses TB2. The best workers in my organization get the highest team-performance based bonuses. TB3. High performers and low performers certainly get different team-performance based bonuses in my organization. TB4. I can see a clear link between my performance and team-performance based bonuses provided by my organization. **Expectancy perceptions** TB5. I believe I can get team-performance based bonuses when I make more effort. TB6. I believe that the performance measures used to

based bonuses	determine my team-performance based bonuses are achievable. TB7. I believe that I can do the work that is required to achieve team-performance based bonuses in my organization. **Valence perceptions** TB8. I value team-performance based bonuses to motivate me to improve my job performance. TB9. I believe team-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor. TB10. Getting team-performance based bonuses is important for me to be motivated. TB11. I value team-performance based bonuses.
Divisional performance-based bonuses	**Instrumentality perceptions** DB1. If I perform especially well on my present job, I will get divisional-performance based bonuses DB2. The best workers in my organization get the highest divisional-performance based bonuses. DB3. High performers and low performers certainly get different divisional-performance based bonuses in my organization. DB4. I can see a clear link between my performance and divisional-performance based bonuses provided by my organization. **Expectancy perceptions** DB5. I believe I can get divisional-performance based bonuses when I make more effort. DB6. I believe that the performance measures used to determine my divisional -performance based bonuses are achievable. DB7. I believe that I can do the work that is required to achieve divisional-performance based bonuses in my organization. **Valence perceptions** DB8. I value divisional-performance based bonuses to motivate me to improve my job performance. DB9. I believe divisional-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor. DB10. Getting divisional-performance based bonuses is important for me to be motivated. DB11. I value divisional-performance based bonuses.

Organizational performance-based bonuses	**Instrumentality perceptions** OB1. If I perform especially well on my present job, I will get organizational-performance based bonuses. OB2. The best workers in my organization get the highest organizational-performance based bonuses. OB3. High performers and low performers certainly get different organizational-performance based bonuses in my organization. OB4. I can see a clear link between my performance and organizational-performance based bonuses provided by my organization. **Expectancy perceptions** OB5. I believe I can get organizational-performance based bonuses when I make more effort. OB6. I believe that the performance measures used to determine my organizational-performance based bonuses are achievable. OB7. I believe that I can do the work that is required to achieve organizational-performance based bonuses in my organization. **Valence perceptions** OB8. I value organizational-performance based bonuses to motivate me to improve my job performance. OB9. I believe organizational-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor. OB10. Getting organizational-performance based bonuses is important for me to be motivated. OB11. I value organizational-performance based bonuses.

Table 5. Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1. IP	5.11	1.14	1																												
2. EP	5.39	0.88	.71**	1																											
3. VP	5.41	0.96	.62**	.69**	1																										
4. PFP Perceptions (3 dimensions)	5.3	0.88	.89**	.89**	.86**	1																									
5. R: IP	5.23	1.23	.83**	.61**	.58**	.79**	1																								
6. R: EP	5.45	0.98	.71**	.73**	.62**	.78**	.73**	1																							
7. R: VP	5.68	0.87	.44**	.61**	.72**	.66**	.49**	.63**	1																						
8. BI: IP	5.39	1.07	.79**	.59**	.61**	.76**	.80**	.69**	.48**	1																					
9. BI: EP	5.47	0.89	.61**	.65**	.63**	.71**	.60**	.74**	.57**	.74**	1																				
10. BI: VP	5.62	0.86	.42**	.57**	.70**	.63**	.36**	.45**	.76**	.58**	.64**	1																			
11. BT: IP	5.28	0.95	.67**	.50**	.48**	.63**	.72**	.63**	.42**	.66**	.53**	.42**	1																		
12. BT: EP	5.38	0.94	.64**	.64**	.59**	.71**	.52**	.61**	.43**	.68**	.61**	.52**	.69**	1																	
13. BT: VP	5.44	0.92	.55**	.51**	.61**	.63**	.39**	.46**	.53**	.48**	.46**	.58**	.69**	.75**	1																
14. BD: IP	5.2	1.08	.42**	.34*	.33*	.42**	.45*	.38*	.30*	.59**	.47**	.27*	.83**	.69**	.75**	1															
15. BD: EP	5.29	1.03	.33*	.28*	.34*	.36*	.42*	.33*	.34*	.56**	.55**	.34*	.71**	.72**	.69**	.87**	1														
16. BD: VP	5.17	1.05	.35*	.25*	.32*	.35*	.35*	.30*	.33*	.53**	.55**	.42*	.81**	.63**	.82**	.86**	.87**	1													
17. BO: IP	5.09	1.2	.61**	.41**	.40**	.57**	.60**	.55**	.40**	.69**	.41**	.30*	.61**	.42**	.37*	.89**	.83**	.81**	1												
18. BO: EP	5.27	1.03	.46**	.53**	.41**	.54**	.46**	.54**	.40**	.50**	.54**	.22*	.47**	.48**	.27*	.80**	.82**	.80**	.67**	1											
19. BO: VP	5.36	0.87	.35**	.35**	.44**	.45**	.28*	.27*	.47**	.39**	.26*	.45**	.3*	.29*	.54**	.85**	.81**	.87**	.71**	.64**	1										
20. Pay satisfaction	4.94	1.12	.73**	.58**	.46**	.68**	.69**	.61**	.29**	.61**	.51**	.29**	.67**	.54**	.51**	.44**	.38*	.41*	.5**	.48**	.23*	1									
21. Job satisfaction	5.42	1.07	.59**	.59**	.52**	.64**	.53**	.55**	.38**	.57**	.61**	.46**	.47**	.56**	.43**	.42**	.42**	.38*	.45**	.44**	.29**	.60**	1								
22. Affective Org. Commitment	5.02	1.14	.6**	.48**	.44**	.58**	.53**	.44**	.29**	.57**	.44**	.33**	.48**	.5**	.46**	.43**	.46**	.46**	.5**	.46**	.37**	.62**	.69**	1							
23. Trust (Supervisor)	5.08	0.97	.48**	.46**	.38**	.50**	.44**	.42**	.31**	.45**	.41**	.31**	.34**	.38**	.32**	.42**	.37*	.33*	.39**	.38**	.25*	.51**	.59**	.58**	1						
24. Trust (Top management)	4.87	1.05	.48**	.39**	.36**	.47**	.45**	.39**	.28**	.46**	.36**	.28**	.39**	.41**	.40**	.49**	.51**	.52**	.43**	.42**	.35**	.51**	.54**	.61**	.6**	1					
25. Turnover Intension	3.82	1.80	-.35**	-.32**	-.31**	-.37**	-.39**	-.38**	-.27**	-.34**	-.38**	-.27**	-.17*	-.20*	-.11	-.08	-.12	-.14	-.23*	-.34**	-.19*	-.42**	-.43**	-.34**	-.22**	-.2**	1				
26. Dyadic tenure	2.43	2.65	-.04	.03	-.05	-.02	-.04	-.09	-.07	-.10*	-.10*	-.05	-.09	-.10	-.05	.14	.07	.06	-.07	-.03	.12	-.04	.01	-.03	.13*	.03	-.02	1			
27. Job tenure	2.91	2.82	.01	.06	.04	.04	-.004	-.002	-.02	-.06	-.05	-.03	-.11	-.06	.03	-.03	-.04	-.08	-.08	-.10	.03	.01	.03	.02	.11*	.04	-.07	.65**	1		
28. Org. tenure	4.54	4.33	-.01	.08	.04	.04	.002	.003	.05	.004	.004	.07	.02	.01	.07	.12	.10	.10	-.02	.03	.05	-.01	.08	.08	.12*	.01	-.16**	.60**	.68**	1	
29. Age	-	-	-.12*	.04	.05	-.02	-.13*	-.05	.02	-.16*	-.07	.04	-.13*	-.08	.03	.07	.09	0.06	-.19*	-.06	.04	-.15*	-.05	-.11*	-.02	-.09*	-.06	.42**	.47**	.59**	1

Notes: N =562; * p < .05; ** p < .01; IP: Instrumentality Perception; EP: Expectancy Perception; VP: Valence Perception; R: Raises; BI: Individual-based performance Bonuses; BT: Team Bonuses; BD: Divisional based Bonuses; BO: Organizational based Bonuses. Age was a categorical variable; 1: 20 or less; 2: 20-24; 3: 25-29; 4: 30-39; 5:40-49; 6: 50-59; 7: 60 and above.

Table 6. Types of PFP Plans Participants Received. (A)

Merit Pay (Raises)	X	O	O	O	X	O	X	X	O	X	X	X	O	X	X	X	X	X	O	X	O	O	O
Individual-Based Performance Bonuses	O	X	O	O	X	X	X	X	X	X	X	X	X	X	O	O	X	O	X	X	X	X	X
Team Performance-Based Bonuses	O	O	X	O	O	X	X	X	X	O	O	X	O	O	O	X	X	X	X	X	O	X	O
Divisional Performance-Based Bonuses	O	O	O	O	O	O	O	O	O	O	O	X	O	X	O	O	O	O	X	X	O	X	X
Organizational Performance-Based Bonuses	O	O	O	X	O	O	O	X	X	X	O	X	X	O	X	O	O	X	X	X	O	O	X
Stock Options	O	O	O	O	O	O	O	O	O	O	X	O	O	O	O	O	X	O	O	X	X	O	O
Stock Grants	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	O	O	O
Total	37	69	21	13	75	43	35	23	21	21	17	12	12	11	10	10	8	8	6	6	5	5	5

N=562
X= Yes. O= No.

Merit Pay (Raises)	O	O	O	X	X	X	X	X	O	X	O	X	X	O	O	O	O	X	X	X	O	X	X
Individual-Based Performance Bonuses	O	O	O	X	X	O	O	O	X	O	X	X	X	O	X	X	X	O	X	O	X	O	O
Team Performance-Based Bonuses	X	X	O	O	X	O	O	X	X	O	O	X	X	X	O	O	X	X	O	O	O	X	X
Divisional Performance-Based Bonuses	O	X	X	X	X	O	X	O	O	O	O	O	X	O	X	X	O	X	O	X	O	O	X
Organizational Performance-Based Bonuses	X	O	O	X	O	X	X	O	X	O	X	X	X	O	O	O	O	O	O	O	X	X	O
Stock Options	O	O	O	O	O	X	O	X	X	X	X	X	X	X	O	X	X	O	O	O	O	X	X
Stock Grants	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	X	O	X	O	O
Total	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2

Merit Pay (Raises)	X	X	X	X	X	X	X	O	O	O	O	O	X	X	X	O	X	X	O	O
Individual-Based Performance Bonuses	X	X	X	X	X	O	X	O	O	O	O	O	O	O	X	X	O	O	X	X
Team Performance-Based Bonuses	O	X	X	O	O	X	O	O	X	X	X	O	O	X	O	X	O	X	X	O
Divisional Performance-Based Bonuses	O	O	O	O	X	X	X	X	O	X	X	O	O	X	O	O	O	O	O	X
Organizational Performance-Based Bonuses	X	X	X	X	O	O	X	X	X	O	X	X	O	O	O	X	X	X	O	O
Stock Options	X	O	X	O	X	X	X	X	X	X	O	O	O	O	X	O	X	O	O	X
Stock Grants	O	X	X	X	O	X	O	O	O	O	O	X	X	X	X	X	X	X	X	X
Total	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 7. Types of PFP Plans Participants Received. (B)

Merit Pay (Raises)	X							X		X			X	X					X	X	X			X	X		X
Individual-Based Performance Bonuses		X						X	X			X		X				X			X	X	X	X	X		X
Team Performance-Based Bonuses			X						X	X	X			X	X		X					X	X	X	X	X	X
Divisional Performance-Based Bonuses				X											X	X	X			X		X	X	X	X	X	X
Organizational Performance-Based Bonuses					X						X	X	X			X	X						X		X	X	X
Stock Options						X												X	X		X					X	X
Stock Grants							X																				X
Total	324	418	245	86	180	81	25	234	180	128	97	131	106	98	48	42	28	60	59	53	44	36	27	25	21	9	6

N=562
X= Yes. Blank: Not Counted.

Table 8. Reliability

Construct	Cronbach's alpha	Construct	Cronbach's alpha
Instrumentality perception	0.90	Divisional Bonus Instrumentality perception	0.86
Expectancy perception	0.74	Divisional Bonus Expectancy perception	0.82
Valence perception	0.74	Divisional Bonus Valence Perception	0.87
Raises Instrumentality perception	0.89	Org. Bonus Instrumentality Perception	0.88
Raises Expectancy perception	0.75	Org. Bonus Expectancy Perception	0.79
Raises Valence perception	0.77	Org. Bonus Valence Perception	0.74
Individual bonuses Instrumentality perception	0.83	Turnover Intention	0.94
Individual bonuses Expectancy perception	0.74	Global Job Satisfaction	0.80
Individual bonuses Valence perception	0.82	Trust (Top management)	0.76
Team Bonus Instrumentality perception	0.80	Trust (Supervisor)	0.77
Team Bonus Expectancy perception	0.81	Affective Org. Commitment	0.79
Team Bonus Valence perception	0.85	Pay Satisfaction	0.96
Raise Satisfaction	0.89	Team Bonus Satisfaction	0.87
Individual Bonus Satisfaction	0.88	Organization Bonus Satisfaction	0.90

Table 9. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (Overall)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
1-factor model	465.57	54	0.84	0.85	0.87	0.87	0.12	0.08
2-factor model (I, EV)	193.13	53	0.94	0.94	0.95	0.95	0.07	0.05
(IE, V)	318.13	53	0.89	0.90	0.91	0.91	0.09	0.07
3-factor model (I, E, V)	110.82	48	0.97	0.96	0.98	0.98	0.05	0.03

Table 10. Discriminant Validity Evidence for Overall PFP Perceptions: Chi-Square Difference Test

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
1-factor model		272.44*** (1)	147.44*** (1)	354.75***(6)
2-factor model (I, EV)				82.31***(5)
2-factor model (IE, V)				207.31***(5)
3-factor model (I, E, V)				

*** $p < .001$

Table 11. CFA Standardized Factor Loadings of Overall PFP Perceptions

Items	CFA Factor Loadings		
	Instrumentality perception	**Expectancy perception**	**Valence perception**
If I perform especially well on my present job, I will get financial rewards.	0.79		
The best workers in my organization get financially rewarded.	0.82		
High performers and low performers certainly get different financial rewards in my organization.	0.67		
I can see a clear link between my performance and financial rewards provided by my organization.	0.79		
I believe that current financial rewards plans in my organization are achievable.	0.75		
I believe that my company pays for performance.	0.82		
I believe I can successfully improve my performance when I make more effort.		0.59	
In the past, I was able to achieve the performance goals set by my organization/my supervisor.		0.46	
I believe that I can do the work that is required to achieve financial rewards in my organization.		0.73	
I believe financial rewards motivate me to reach the performance goals set by my organization/my supervisor.			0.84
I am motivated by financial rewards.			0.61
Financial rewards are very important to me.			0.53

Table 12. Fit Statistics of Hypothesized and Alternative Models of PFP perceptions (Within-PFP plan) (R & BI, N=234)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Merit Pay (Raises)** Perceptions								
1-factor model	313.39	51	0.78	0.77	0.80	0.80	0.15	0.10
2-factor model								
(I, EV)	228.33	50	0.85	0.83	0.86	0.86	0.12	0.08
(IE, V)	194.23	50	0.88	0.86	0.89	0.89	0.11	0.08
3-factor model (I, E, V)	119.53	46	0.93	0.91	0.94	0.94	0.08	0.06
Dimensions for **Individual-Based Performance Bonuses** Perceptions								
1-factor model	286.43	42	0.78	0.81	0.83	0.83	0.16	0.09
2-factor model								
(I, EV)	247.06	41	0.81	0.83	0.86	0.86	0.15	0.09
(IE, V)	97.11	41	0.95	0.93	0.96	0.96	0.08	0.05
3-factor model (I, E, V)	93.82	39	0.95	0.94	0.96	0.96	0.08	0.048

Table 13. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (Within-PFP plan) (BI & BT, N=180)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Individual-Based Performance Bonuses** Perceptions								
1-factor model	158.65	44	0.84	0.83	0.87	0.87	0.12	0.07
2-factor model								
(I, EV)	156.06	43	0.84	0.83	0.87	0.87	0.12	0.07
(IE, V)	107.75	43	0.91	0.89	0.93	0.93	0.09	0.05
3-factor model (I, E, V)	103.46	41	0.91	0.89	0.93	0.93	0.09	0.05
Dimensions for **Team-Based Performance Bonuses** Perceptions								
1-factor model	145.98	44	0.88	0.87	0.90	0.90	0.11	0.06
2-factor model								
(I, EV)	114.28	43	0.91	0.90	0.93	0.93	0.10	0.05
(IE, V)	103.01	43	0.93	0.91	0.94	0.94	0.09	0.05
3-factor model (I, E, V)	82.86	41	0.95	0.93	0.96	0.96	0.08	0.04

Table 14. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (within-PFP plan) (R & BT, N=128)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Merit Pay (Raises)** Perceptions								
1-factor model	160.74	48	0.82	0.79	0.84	0.84	0.14	0.09
2-factor model								
(I, EV)	138.04	47	0.85	0.82	0.87	0.87	0.12	0.08
(IE, V)	98.69	47	0.92	0.87	0.93	0.93	0.09	0.07
3-factor model (I, E, V)	84.71	45	0.93	0.89	0.95	0.94	0.08	0.07
Dimensions for **Team-Based Performance Bonuses** Perceptions								
1-factor model	135.96	44	0.87	0.86	0.90	0.90	0.13	0.06
2-factor model								
(I, EV)	96.22	43	0.92	0.90	0.94	0.94	0.10	0.06
(IE, V)	82.76	43	0.94	0.91	0.96	0.96	0.09	0.05
3-factor model (I, E, V)	55.59	41	0.98	0.94	0.98	0.98	0.05	0.04

Table 15. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (Within-PFP plan) (BT & BO, N=97)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Team-Based Performance Bonuses** Perceptions								
1-factor model	108.71	42	0.80	0.78	0.85	0.85	0.13	0.08
2-factor model								
(I, EV)	92.34	41	0.84	0.81	0.89	0.88	0.11	0.07
(IE, V)	76.07	41	0.89	0.85	0.92	0.92	0.09	0.06
3-factor model (I, E, V)	55.41	39	0.95	0.89	0.96	0.96	0.07	0.05
Dimensions for **Organization-Based Performance Bonuses** Perceptions								
1-factor model	80.17	43	0.89	0.84	0.92	0.91	0.09	0.07
2-factor model								
(I, EV)	71.12	42	0.91	0.85	0.93	0.93	0.08	0.07
(IE, V)	62.16	42	0.94	0.87	0.95	0.95	0.07	0.06
3-factor model (I, E, V)	56.65	40	0.95	0.88	0.96	0.96	0.07	0.06

Table 16. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (Within-PFP plan) (BI & BO, N=131)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Individual-Based Performance Bonuses** Perceptions								
1-factor model	113.89	43	0.83	0.80	0.87	0.87	0.11	0.08
2-factor model								
(I, EV)	113.87	42	0.82	0.80	0.87	0.86	0.11	0.08
(IE, V)	71.68	42	0.93	0.88	0.95	0.94	0.07	0.06
3-factor model (I, E, V)	66.63	40	0.93	0.89	0.95	0.95	0.07	0.05
Dimensions for **Organization-Based Performance Bonuses** Perceptions								
1-factor model	132.76	42	0.86	0.85	0.89	0.89	0.13	0.07
2-factor model								
(I, EV)	100.64	41	0.90	0.89	0.93	0.93	0.11	0.06
(IE, V)	128.54	41	0.86	0.85	0.90	0.89	0.13	0.07
3-factor model (I, E, V)	75.73	39	0.94	0.91	0.96	0.96	0.09	0.05

Table 17. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (Within-PFP plan) (R & BO, N=106)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Merit Pay (Raises)** Perceptions								
1-factor model	113.22	49	0.86	0.80	0.88	0.88	0.11	0.09
2-factor model								
(I, EV)	78.19	48	0.93	0.86	0.94	0.94	0.08	0.08
(IE, V)	76.43	48	0.94	0.87	0.95	0.95	0.08	0.07
3-factor model (I, E, V)	56.21	46	0.98	0.90	0.98	0.98	0.05	0.06
Dimensions for **Organization-Based Performance Bonuses** Perceptions								
1-factor model	127.46	42	0.86	0.85	0.89	0.89	0.14	0.06
2-factor model								
(I, EV)	102.65	41	0.89	0.88	0.92	0.92	0.12	0.06
(IE, V)	85.01	41	0.92	0.90	0.94	0.94	0.10	0.05
3-factor model (I, E, V)	72.39	39	0.94	0.91	0.96	0.96	0.09	0.05

Table 18. Fit Statistics of Hypothesized and Alternative Models of PFP Perceptions (Within-PFP Plan) (R & BI & BT, N=98)

Model	$\chi 2$	df	NNFI	NFI	IFI	CFI	RMSEA	SRMR
Dimensions for **Merit Pay (Raises)** Perceptions								
1-factor model	139.84	48	0.81	0.77	0.83	0.83	0.14	0.10
2-factor model								
(I, EV)	133.08	47	0.82	0.78	0.84	0.84	0.14	0.09
(IE, V)	85.72	47	0.92	0.86	0.93	0.93	0.09	0.07
3-factor model (I, E, V)	72.57	45	0.94	0.88	0.95	0.95	0.08	0.06
Dimensions for **Individual-Based Performance Bonuses** Perceptions								
1-factor model	138.27	44	0.73	0.71	0.79	0.78	0.15	0.11
2-factor model								
(I, EV)	138.13	43	0.72	0.71	0.78	0.78	0.15	0.11
(IE, V)	74.25	43	0.91	0.85	0.93	0.93	0.09	0.06
3-factor model (I, E, V)	73.81	41	0.90	0.85	0.93	0.92	0.09	0.06
Dimensions for **Team-Based Performance Bonuses** Perceptions								
1-factor model	151.31	44	0.81	0.80	0.85	0.85	0.16	0.08
2-factor model								
(I, EV)	123.61	43	0.86	0.84	0.89	0.89	0.14	0.07
(IE, V)	78.85	43	0.94	0.90	0.95	0.95	0.09	0.05
3-factor model (I, E, V)	64.54	41	0.96	0.92	0.97	0.97	0.08	0.05

Table 19. Discriminant Validity Evidence for Raises and Individual Bonuses: Chi-square Difference Test (Within-PFP plan)

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Dimensions for **Merit Pay (Raises)** Perceptions				
1-factor model		85.06*** (1)	119.16*** (1)	193.86*** (5)
2-factor model (I, EV)				108.8***(4)
2-factor model (IE, V)				74.7***(4)
3-factor model (I, E, V)				
Dimensions for **Individual-Based Performance Bonuses** Perceptions				
1-factor model		39.37***(1)	189.32***(1)	192.61***(3)
2-factor model (I, EV)				153.24***(2)
2-factor model (IE, V)				3.29(2)
3-factor model (I, E, V)				

*** p < .001

Table 20. Discriminant Validity Evidence for Individual Bonuses and Team Bonuses: Chi-square Difference Test (Within-PFP plan)

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Individual-Based Performance Bonuses				
1-factor model		2.59(1)	50.9***(1)	55.19***(3)
2-factor model (I, EV)				52.6***(3)
2-factor model (IE, V)				4.29(2)
3-factor model (I, E, V)				
Team-Based Performance Bonuses				
1-factor model		2.59(1)	50.9***(1)	55.19***(3)
2-factor model (I, EV)				52.6***(3)
2-factor model (IE, V)				4.29(2)
3-factor model (I, E, V)				

*** $p < .001$

Table 21. Discriminant Validity Evidence for Raises and Team Bonuses: Chi-square Difference Test (Within-PFP plan)

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Dimensions for **Merit Pay (Raises)** Perceptions				
1-factor model		22.7***(1)	62.05***(1)	76.03***(3)
2-factor model (I, EV)				53.33***(2)
2-factor model (IE, V)				13.98***(2)
3-factor model (I, E, V)				
Dimensions for **Team-Based Performance Bonuses** Perceptions				
1-factor model		39.74***(1)	53.2***(1)	80.37***(3)
2-factor model (I, EV)				40.63***(2)
2-factor model (IE, V)				27.17***(2)
3-factor model (I, E, V)				

***p<.001

Table 22. Discriminant Validity Evidence for Team Bonuses and Organization Bonuses: Chi-square Difference Test (Within-PFP plan)

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Dimensions for **Team-Based Performance Bonuses** Perceptions				
1-factor model		16.37***(1)	32.64***(1)	53.3***(3)
2-factor model (I, EV)				36.93***(2)
2-factor model (IE, V)				20.66***(2)
3-factor model (I, E, V)				
Dimensions for **Organization-Based Performance Bonuses** Perceptions				
1-factor model		9.05**(1)	18.01***(1)	23.52***(3)
2-factor model (I, EV)				14.47***(2)
2-factor model (IE, V)				5.51*(2)
3-factor model (I, E, V)				

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 23. Discriminant Validity Evidence for Individual Bonuses and Organization Bonuses: Chi-square Difference Test (Within-PFP plan)

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Dimensions for **Individual-Based Performance Bonuses** Perceptions				
1-factor model		0.02 (1)	42.21***(1)	47.26***(3)
2-factor model (I, EV)				47.24***(2)
2-factor model (IE, V)				5.05*(2)
3-factor model (I, E, V)				
Dimensions for **Organization-Based Performance Bonuses** Perceptions				
1-factor model		32.12***(1)	32.12***(1)	57.03***(3)
2-factor model (I, EV)				24.91***(3)
2-factor model (IE, V)				52.81***(3)
3-factor model (I, E, V)				

* p < .05; ** p < .01; *** p < .001.

Table 24. Discriminant Validity Evidence for Raises, Organization Bonuses: Chi-square Difference Test (Within-PFP plan)

	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Dimensions for **Merit Pay (Raises)** Perceptions				
1-factor model		35.03*** (1)	36.79***(1)	57.01***(3)
2-factor model (I, EV)				21.98***(2)
2-factor model (IE, V)				20.22***(2)
3-factor model (I, E, V)				
Dimensions for **Organization-Based Performance Bonuses** Perceptions				
1-factor model		24.81***(1)	42.45***(1)	55.07***(3)
2-factor model (I, EV)				30.26***(2)
2-factor model (IE, V)				12.62***(2)
3-factor model (I, E, V)				

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 25. Discriminant Validity Evidence for Raises, Individual Bonuses, and Team Bonuses: Chi-square Difference Test (Within-PFP plan)

Merit Pay	1-factor model	2-factor model (I, EV)	2-factor model (IE, V)	3-factor model (I, E, V)
Dimensions for **Merit Pay (Raises)** Perceptions				
1-factor model		6.76**(1)	54.12***(1)	67.27***(3)
2-factor model (I, EV)				60.51***(2)
2-factor model (IE, V)				13.15***(2)
3-factor model (I, E, V)				
Dimensions for **Individual-Based Performance Bonuses** Perceptions				
1-factor model		0.14(1)	64.02***(1)	64.46***(3)
2-factor model (I, EV)				64.32***(2)
2-factor model (IE, V)				0.44(2)
3-factor model (I, E, V)				
Dimensions for **Team-Based Performance Bonuses** Perceptions				
1-factor model		27.7***(1)	72.46***(1)	86.77***(3)
2-factor model (I, EV)				59.07***(2)
2-factor model (IE, V)				14.31***(2)
3-factor model (I, E, V)				

* $p < .05$; ** $p < .01$; *** $p < .001$.

Table 26. Standardized Loadings for the Hypothesized Measurement Model for Raises and Individual-Based Performance Bonuses

Items	PFP plans	
	Raises (Merit pay)	Bonus (Individual)
Instrumentality Perceptions		
R1. If I perform especially well on my present job, I will get a pay raise.	0.77	
R2. The best workers in my organization get the highest pay raises.	0.87	
R3. High performers and low performers certainly get different pay raises in my organization.	0.73	
R4. I can see a clear link between my performance and pay raises provided by my organization.	0.88	
B1. If I perform especially well on my present job, I will get individual-based performance bonuses.		0.84
B2. The best workers in my organization get the highest individual-based performance bonuses.		0.82
B3. High performers and low performers certainly get different individual-based performance bonuses in my organization.		0.77
B4. I can see a clear link between my performance and individual-based performance bonuses provided by my organization.		0.77
Expectancy Perceptions		
R5. I believe I can get a pay raises when I make more effort.	0.65	
R6. I believe that the performance measures used to determine my pay raise are achievable.	0.71	
R7. I believe that I can do the work that is required to achieve a pay raises in my organization.	0.78	
B5. I believe I can get individual-based performance bonuses when I make more effort.		0.74
B6. I believe that the performance measures used to determine my individual-based performance bonuses are achievable.		0.77
B7. I believe that I can do the work that is required to achieve individual-based performance bonuses in my organization.		0.65
Valence Perceptions		
R8. I value pay raises to motivate me to improve my job performance.	0.77	
R9. I believe pay raises motivate me to reach the performance goals set by my organization/my supervisor.	0.69	
R10. Getting pay raises is important for me to be motivated.	0.69	
R11. I value pay raises.	0.55	
B8. I value individual-based performance bonuses to motivate me to improve my job performance.		0.71
B9. I believe individual-based performance bonuses motivate me to reach the performance goals set by my organization/my supervisor.		0.77

B11. I value individual-based performance bonuses.		0.81
B10. Getting individual-based performance bonuses is important for me to be motivated.		0.79

Table 27. Standardized Loadings for the Hypothesized Measurement Model for Individual-Based Performance Bonuses and Team-Based Performance Bonuses

Items	PFP plans	
	Bonus (Individual)	**Bonus (Team)**
Instrumentality Perceptions		
B1. If I perform especially well on my present job, I will get individual-based performance bonuses.	0.71	
B2. The best workers in my organization get the highest individual-based performance bonuses.	0.71	
B3. High performers and low performers certainly get different individual-based performance bonuses in my organization.	0.54	
B4. I can see a clear link between my performance and individual-based performance bonuses provided by my organization.	0.73	
TB1. If I perform especially well on my present job, I will get team-performance based bonuses.		0.83
TB2. The best workers in my organization get the highest team-performance based bonuses.		0.58
TB3. High performers and low performers certainly get different team-performance based bonuses in my organization.		0.72
TB4. I can see a clear link between my performance and team-performance based bonuses provided by my organization.		0.73
Expectancy Perceptions		
B5. I believe I can get individual-based performance bonuses when I make more effort.	0.69	
B6. I believe that the performance measures used to determine my individual-based performance bonuses are achievable.	0.79	
B7. I believe that I can do the work that is required to achieve individual-based performance bonuses in my organization.	0.77	
TB5. I believe I can get team-performance based bonuses when I make more effort.		0.78
TB6. I believe that the performance measures used to determine my team-performance based bonuses are achievable.		0.84
TB7. I believe that I can do the work that is required to achieve team-performance based bonuses in my organization.		0.75
Valence Perceptions		
B8. I value individual-based performance bonuses to motivate me to improve my job performance.	0.69	
B9. I believe individual-based performance bonuses motivate me to reach the performance goals set by my organization/my supervisor.	0.66	
B10. Getting individual-based performance bonuses is important	0.76	

for me to be motivated.		
B11. I value individual-based performance bonuses.	0.67	
TB8. I value team-performance based bonuses to motivate me to improve my job performance.		0.78
TB9. I believe team-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor.		0.79
TB10. Getting team-performance based bonuses is important for me to be motivated.		0.70
TB11. I value team-performance based bonuses.		0.78

Table 28. Standardized Loadings for the Hypothesized Measurement Model for Raises and Team-Based Performance Bonuses

Items	PFP plans	
	Raises (Merit pay)	Bonus (Team)
Instrumentality Perceptions		
R1. If I perform especially well on my present job, I will get a pay raise.	0.78	
R2. The best workers in my organization get the highest pay raises.	0.82	
R3. High performers and low performers certainly get different pay raises in my organization.	0.73	
R4. I can see a clear link between my performance and pay raises provided by my organization.	0.84	
TB1. If I perform especially well on my present job, I will get team-performance based bonuses.		0.80
TB2. The best workers in my organization get the highest team-performance based bonuses.		0.67
TB3. High performers and low performers certainly get different team-performance based bonuses in my organization.		0.81
TB4. I can see a clear link between my performance and team-performance based bonuses provided by my organization.		0.79
Expectancy Perceptions		
R5. I believe I can get a pay raises when I make more effort.	0.66	
R6. I believe that the performance measures used to determine my pay raise are achievable.	0.75	
R7. I believe that I can do the work that is required to achieve a pay raises in my organization.	0.87	
TB5. I believe I can get team-performance based bonuses when I make more effort.		0.78
TB6. I believe that the performance measures used to determine my team-performance based bonuses are achievable.		0.83
TB7. I believe that I can do the work that is required to achieve team-performance based bonuses in my organization.		0.72
Valence Perceptions		
R8. I value pay raises to motivate me to improve my job performance.	0.73	
R9. I believe pay raises motivate me to reach the performance goals set by my organization/my supervisor.	0.71	
R10. Getting pay raises is important for me to be motivated.	0.68	
R11. I value pay raises.	0.75	
TB8. I value team-performance based bonuses to motivate me to improve my job performance.		0.84
TB9. I believe team-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor.		0.81
TB10. Getting team-performance based bonuses is important for		0.76

me to be motivated.		
TB11. I value team-performance based bonuses.		0.86

Table 29. Standardized Loadings for the Hypothesized Measurement Model for Team-Based Performance Bonuses and Organization-Based Performance Bonuses

Items	PFP plans	
	Bonus (Team)	**Bonus (Org.)**
Instrumentality Perceptions		
TB1. If I perform especially well on my present job, I will get team-performance based bonuses.	0.79	
TB2. The best workers in my organization get the highest team-performance based bonuses.	0.61	
TB3. High performers and low performers certainly get different team-performance based bonuses in my organization.	0.65	
TB4. I can see a clear link between my performance and team-performance based bonuses provided by my organization.	0.76	
OB1. If I perform especially well on my present job, I will get organizational-performance based bonuses.		0.79
OB2. The best workers in my organization get the highest organizational-performance based bonuses.		0.64
OB3. High performers and low performers certainly get different organizational-performance based bonuses in my organization.		0.74
OB4. I can see a clear link between my performance and organizational-performance based bonuses provided by my organization.		0.77
Expectancy Perceptions		
TB5. I believe I can get team-performance based bonuses when I make more effort.	0.80	
TB6. I believe that the performance measures used to determine my team-performance based bonuses are achievable.	0.77	
TB7. I believe that I can do the work that is required to achieve team-performance based bonuses in my organization.	0.69	
OB5. I believe I can get organizational-performance based bonuses when I make more effort.		0.62
OB6. I believe that the performance measures used to determine my organizational-performance based bonuses are achievable.		0.74
OB7. I believe that I can do the work that is required to achieve organizational-performance based bonuses in my organization.		0.80
Valence Perceptions		
TB8. I value team-performance based bonuses to motivate me to improve my job performance.	0.77	
TB9. I believe team-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor.	0.65	
TB10. Getting team-performance based bonuses is important for me to be motivated.	0.62	

TB11. I value team-performance based bonuses.	0.69	
OB8. I value organizational-performance based bonuses to motivate me to improve my job performance.		0.70
OB9. I believe organizational-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor.		0.58
OB10. Getting organizational-performance based bonuses is important for me to be motivated.		0.71
OB11. I value organizational-performance based bonuses.		0.64

Table 30. Standardized Loadings for the Hypothesized Measurement Model for Individual-Based Performance Bonuses and Organizational-Based Performance Bonuses

Items	PFP plans	
	Bonus (Individual)	Bonus (Org.)
Instrumentality		
B1. If I perform especially well on my present job, I will get individual-based performance bonuses.	0.63	
B2. The best workers in my organization get the highest individual-based performance bonuses.	0.82	
B3. High performers and low performers certainly get different individual-based performance bonuses in my organization.	0.48	
B4. I can see a clear link between my performance and individual-based performance bonuses provided by my organization.	0.83	
OB1. If I perform especially well on my present job, I will get organizational-performance based bonuses.		0.87
OB2. The best workers in my organization get the highest organizational-performance based bonuses.		0.75
OB3. High performers and low performers certainly get different organizational-performance based bonuses in my organization.		0.82
OB4. I can see a clear link between my performance and organizational-performance based bonuses provided by my organization.		0.80
Expectancy		
B5. I believe I can get individual-based performance bonuses when I make more effort.	0.47	
B6. I believe that the performance measures used to determine my individual-based performance bonuses are achievable.	0.71	
B7. I believe that I can do the work that is required to achieve individual-based performance bonuses in my organization.	0.84	
OB5. I believe I can get organizational-performance based bonuses when I make more effort.		0.84
OB6. I believe that the performance measures used to determine my organizational-performance based bonuses are achievable.		0.83
OB7. I believe that I can do the work that is required to achieve organizational-performance based bonuses in my organization.		0.74
Valence		
B8. I value individual-based performance bonuses to motivate me to improve my job performance.	0.62	
B9. I believe individual-based performance bonuses motivate me to reach the performance goals set by my organization/my	0.67	

supervisor.		
B10. Getting individual-based performance bonuses is important for me to be motivated.	0.62	
B11. I value individual-based performance bonuses.	0.71	
OB8. I value organizational-performance based bonuses to motivate me to improve my job performance.		0.69
OB9. I believe organizational-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor.		0.64
OB10. Getting organizational-performance based bonuses is important for me to be motivated.		0.74
OB11. I value organizational-performance based bonuses.		0.59

Table 31. Standardized Loadings for the Hypothesized Measurement Model for Raises and Organizational-Based Performance Bonuses

Items	PFP plans	
	Raises (Merit pay)	Bonus (Org.)
Instrumentality Perceptions		
R1. If I perform especially well on my present job, I will get a pay raise.	0.76	
R2. The best workers in my organization get the highest pay raises.	0.82	
R3. High performers and low performers certainly get different pay raises in my organization.	0.75	
R4. I can see a clear link between my performance and pay raises provided by my organization.	0.85	
OB1. If I perform especially well on my present job, I will get organizational-performance based bonuses.		0.87
OB2. The best workers in my organization get the highest organizational-performance based bonuses.		0.80
OB3. High performers and low performers certainly get different organizational-performance based bonuses in my organization.		0.85
OB4. I can see a clear link between my performance and organizational-performance based bonuses provided by my organization.		0.86
Expectancy Perceptions		
R5. I believe I can get a pay raises when I make more effort.	0.68	
R6. I believe that the performance measures used to determine my pay raise are achievable.	0.70	
R7. I believe that I can do the work that is required to achieve a pay raises in my organization.	0.76	
OB5. I believe I can get organizational-performance based bonuses when I make more effort.		0.85
OB6. I believe that the performance measures used to determine my organizational-performance based bonuses are achievable.		0.72
OB7. I believe that I can do the work that is required to achieve organizational-performance based bonuses in my organization.		0.79
Valence Perceptions		
R8. I value pay raises to motivate me to improve my job performance.	0.69	
R9. I believe pay raises motivate me to reach the performance goals set by my organization/my supervisor.	0.76	
R10. Getting pay raises is important for me to be motivated.	0.64	
R11. I value pay raises.	0.52	
OB8. I value organizational-performance based bonuses to motivate me to improve my job performance.		0.70
OB9. I believe organizational-performance based bonuses		0.72

motivate me to reach the performance goals set by my organization/my supervisor.		
OB10. Getting organizational-performance based bonuses is important for me to be motivated.		0.82
OB11. I value organizational-performance based bonuses.		0.63

Table 32. Standardized Loadings for the Hypothesized Measurement Model for Raises, Individual-Based Performance Bonuses and Team-Based Performance Bonuses

Items	PFP plans		
	Raises (Merit pay)	**Bonus (Individual)**	**Bonus (Team)**
Instrumentality Perceptions			
R1. If I perform especially well on my present job, I will get a pay raise.	0.81		
R2. The best workers in my organization get the highest pay raises.	0.81		
R3. High performers and low performers certainly get differe pay raises in my organization.	0.77		
R4. I can see a clear link between my performance and pay raises provided by my organization.	0.82		
B1. If I perform especially well on my present job, I will get individual-based performance bonuses.		0.68	
B2. The best workers in my organization get the highest individual-based performance bonuses.		0.68	
B3. High performers and low performers certainly get different individual-based performance bonuses in my organization.		0.70	
B4. I can see a clear link between my performance and individual-based performance bonuses provided by my organization.		0.71	
TB1. If I perform especially well on my present job, I will get team-performance based bonuses.			0.80
TB2. The best workers in my organization get the highest team-performance based bonuses.			0.74
TB3. High performers and low performers certainly get different team-performance based bonuses in my organization.			0.81
TB4. I can see a clear link between my performance and team-performance based bonuses provided by my organization.			0.76
Expectancy Perceptions			
R5. I believe I can get a pay raises when I make more effort.	0.71		
R6. I believe that the performance measures used to determine my pay raise are achievable.	0.74		
R7. I believe that I can do the work that is required to achieve a pay raises in my organization.	0.84		
B5. I believe I can get individual-based performance bonuses when I make more effort.		0.75	
B6. I believe that the performance measures used to determine my individual-based performance bonuses are		0.71	

achievable.			
B7. I believe that I can do the work that is required to achieve individual-based performance bonuses in my organization.		0.74	
TB5. I believe I can get team-performance based bonuses when I make more effort.			0.82
TB6. I believe that the performance measures used to determine my team-performance based bonuses are achievable.			0.84
TB7. I believe that I can do the work that is required to achieve team-performance based bonuses in my organization.			0.82
Valence Perceptions			
R8. I value pay raises to motivate me to improve my job performance.	0.75		
R9. I believe pay raises motivate me to reach the performance goals set by my organization/my supervisor.	0.64		
R10. Getting pay raises is important for me to be motivated.	0.70		
R11. I value pay raises.	0.80		
B8. I value individual-based performance bonuses to motivate me to improve my job performance.		0.66	
B9. I believe individual-based performance bonuses motivate me to reach the performance goals set by my organization/my supervisor.		0.71	
B10. Getting individual-based performance bonuses is important for me to be motivated.		0.73	
B11. I value individual-based performance bonuses.		0.66	
TB8. I value team-performance based bonuses to motivate me to improve my job performance.			0.83
TB9. I believe team-performance based bonuses motivate me to reach the performance goals set by my organization/my supervisor.			0.87
TB10. Getting team-performance based bonuses is important for me to be motivated.			0.76
TB11. I value team-performance based bonuses.			0.87

Table 33. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Raises and Individual Bonuses: Across-PFP Plans

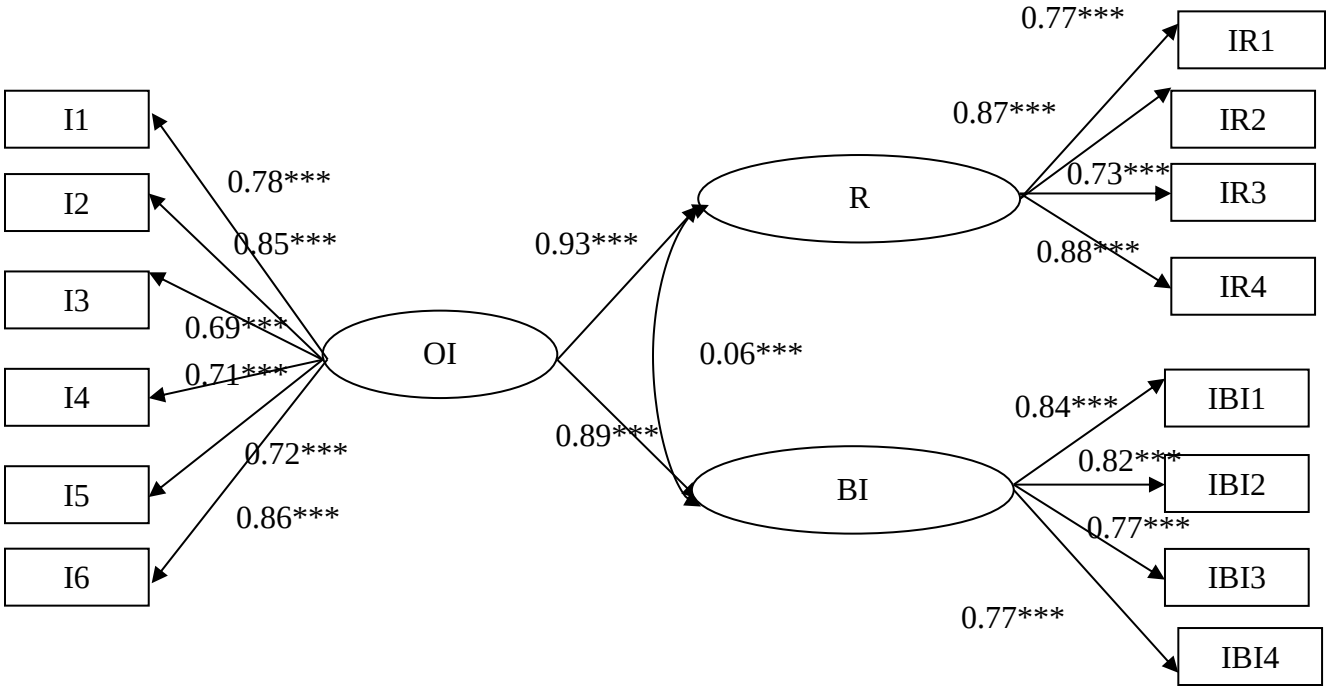


Table 34. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Individual Bonuses and Team Bonuses: Across-PFP plans

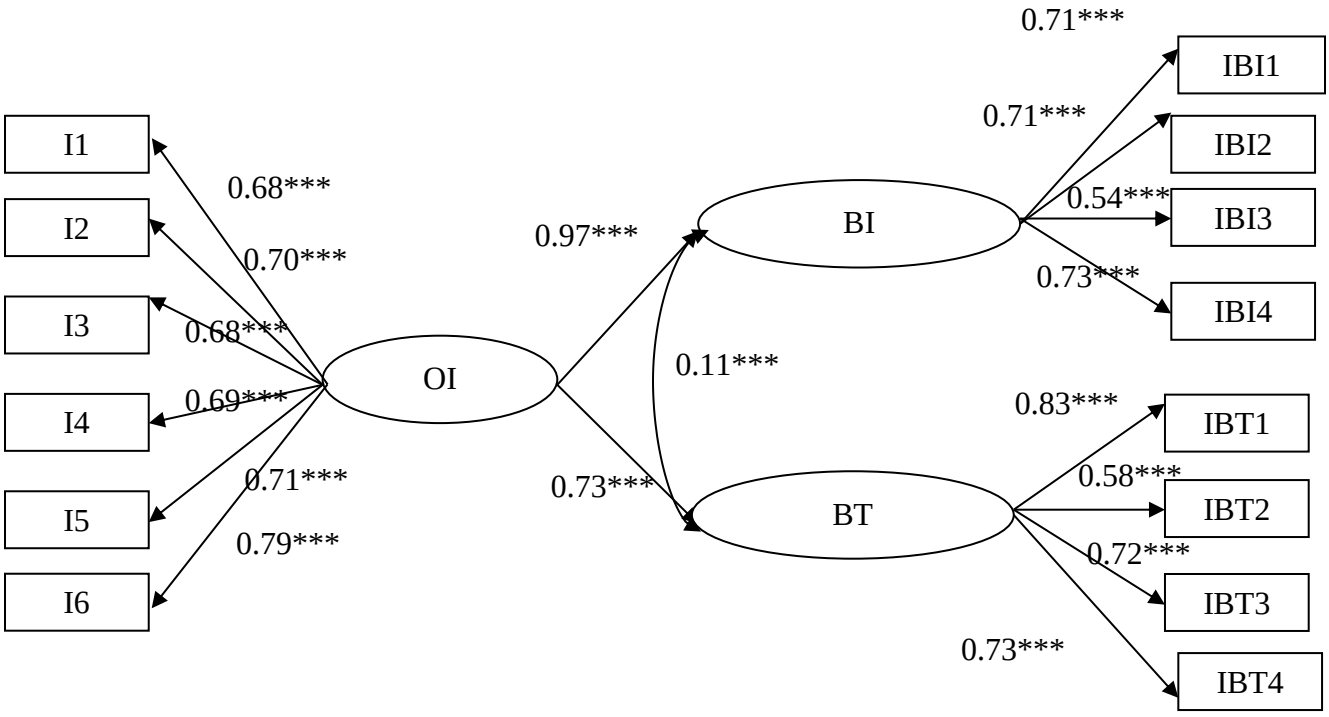


Table 35. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Raises and Team Bonuses: Across-PFP Plans

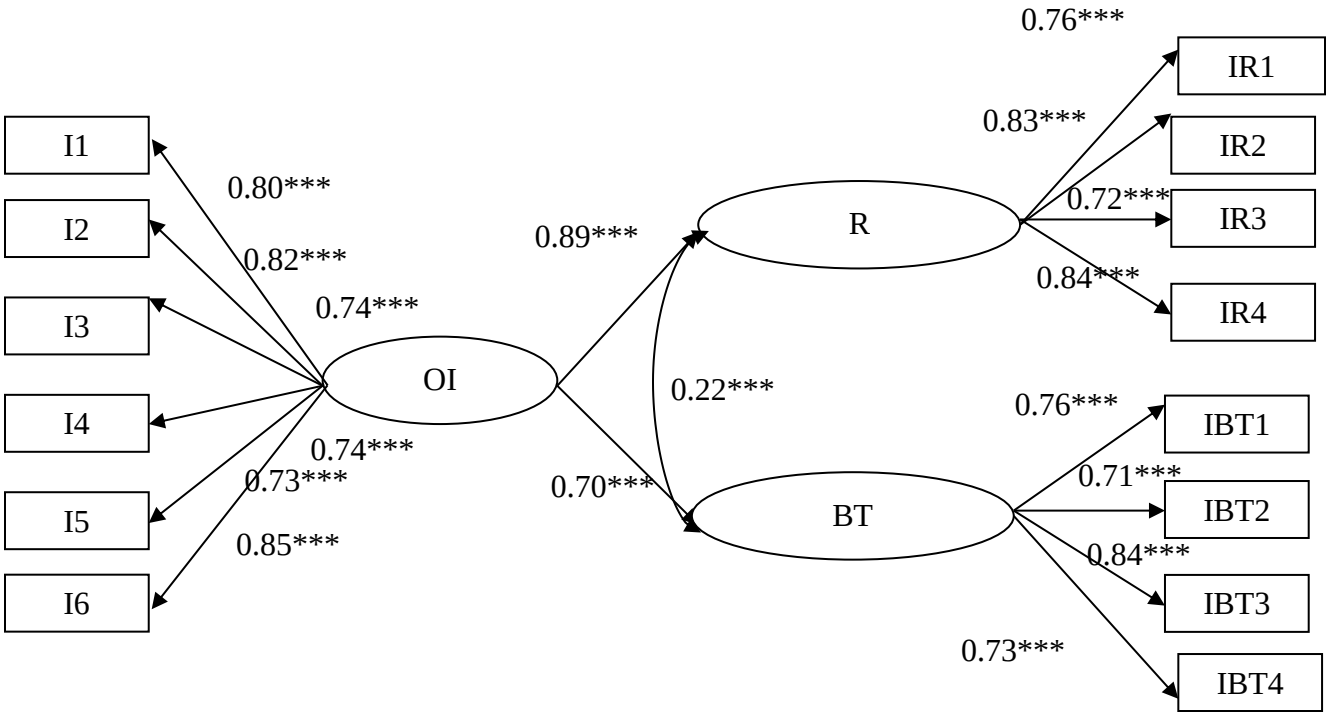


Table 36. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Organizational Bonuses and Team Bonuses: Across-PFP Plans

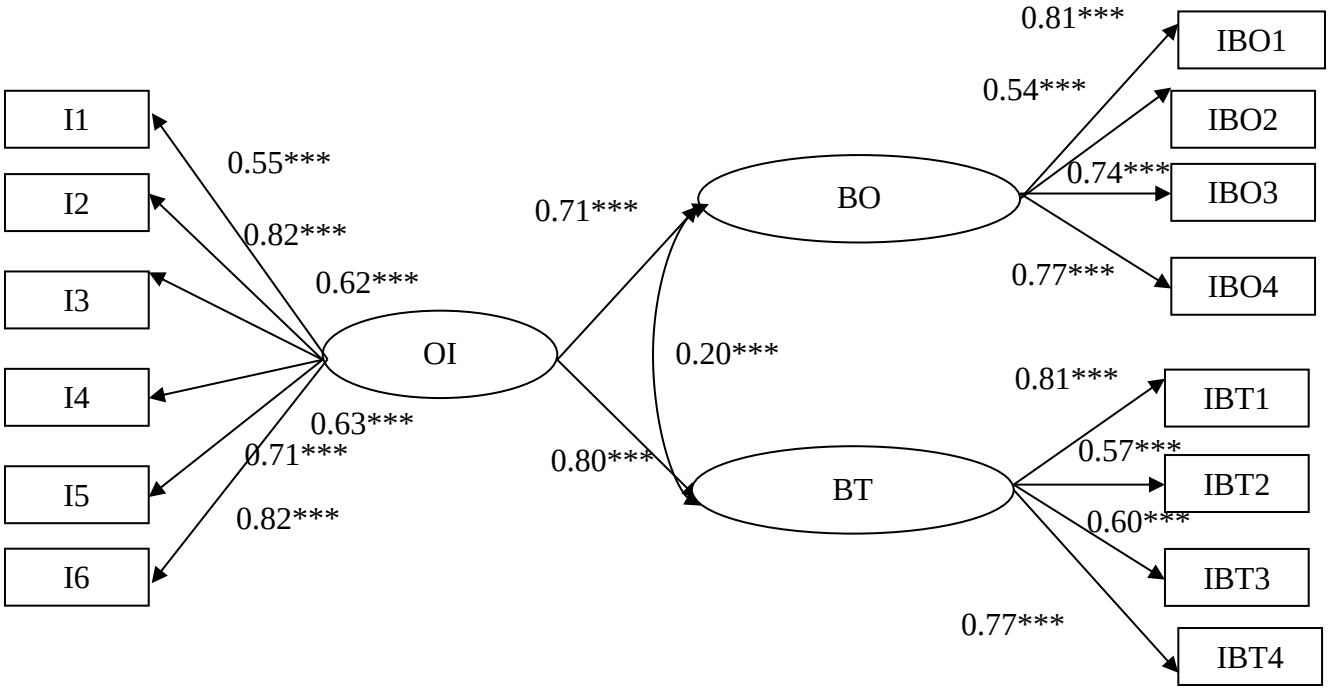


Table 37. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Individual Bonuses and Organizational Bonuses: Across-PFP Plans

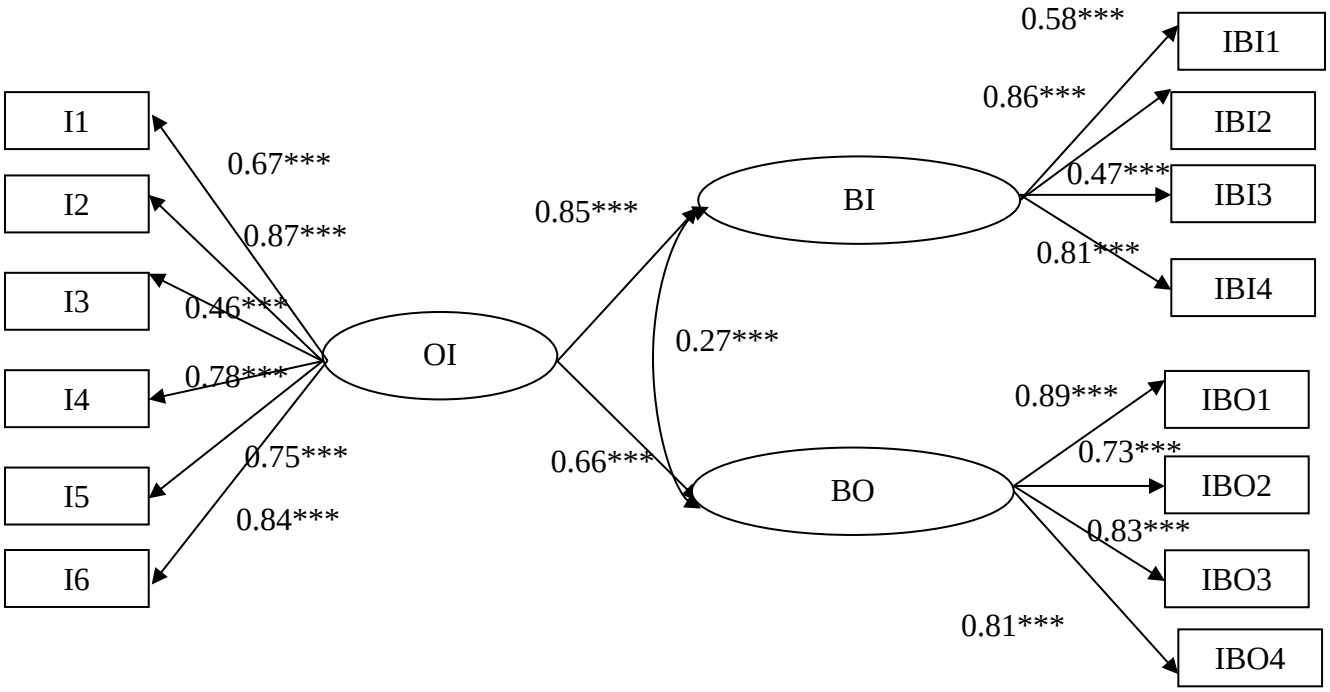


Table 38. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Raise and Organizational Bonuses: Across-PFP Plans

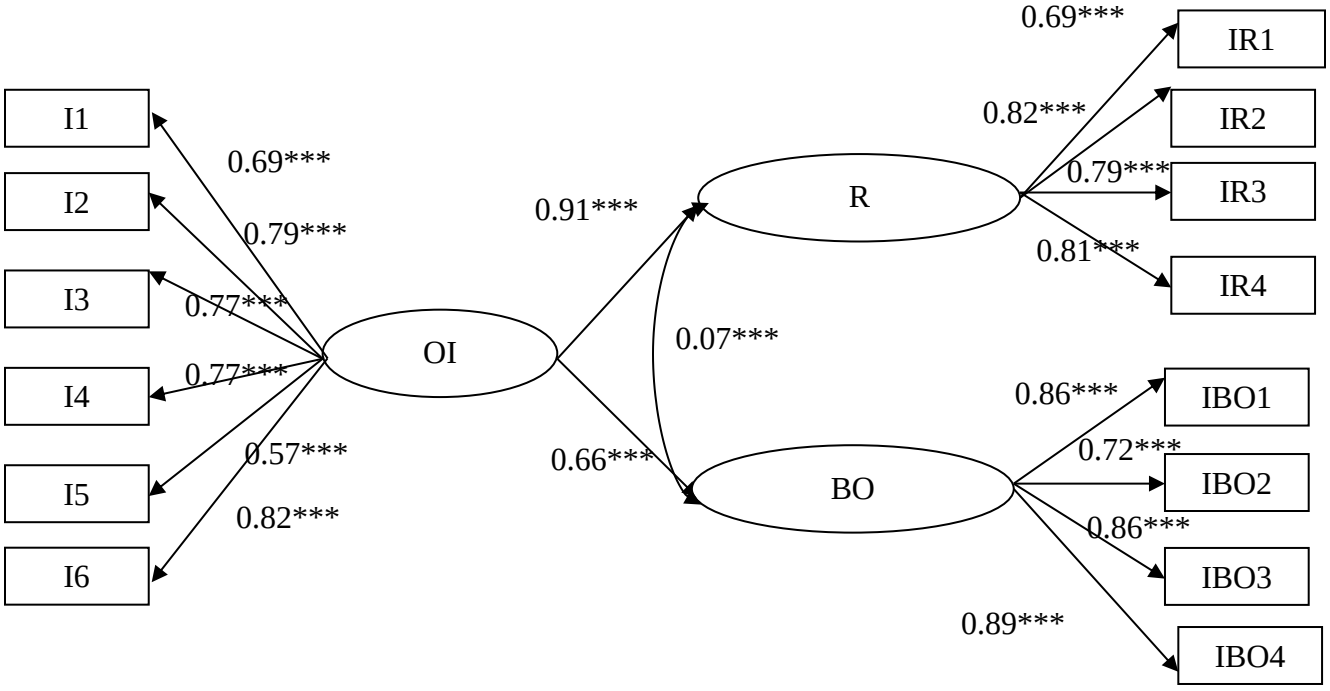


Table 39. CFA Results of Second-Order Confirmatory Factor Analysis for Instrumentality Dimension of Raises, Individual Bonuses, and Team Bonuses: Across-PFP Plans

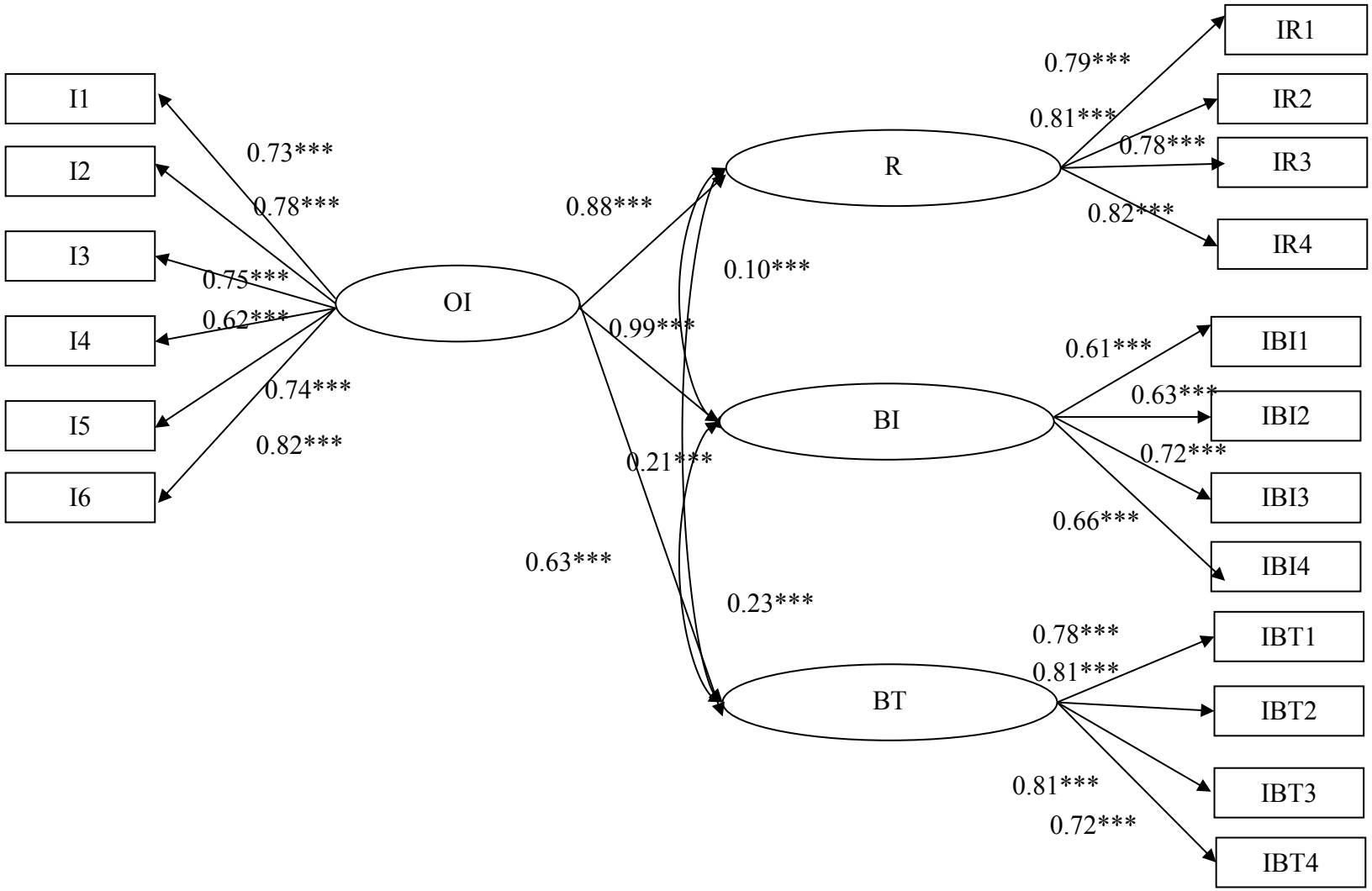


Table 40. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Raises and Individual Bonuses: Across-PFP Plans

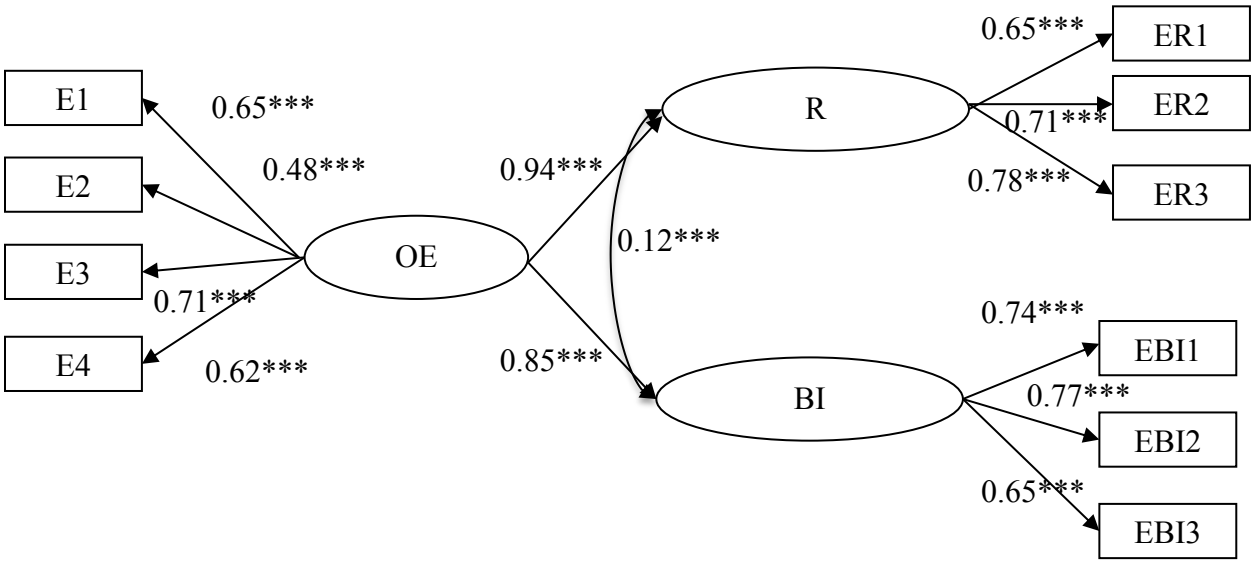


Table 41. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Individual Bonuses and Team Bonuses: Across-PFP Plans

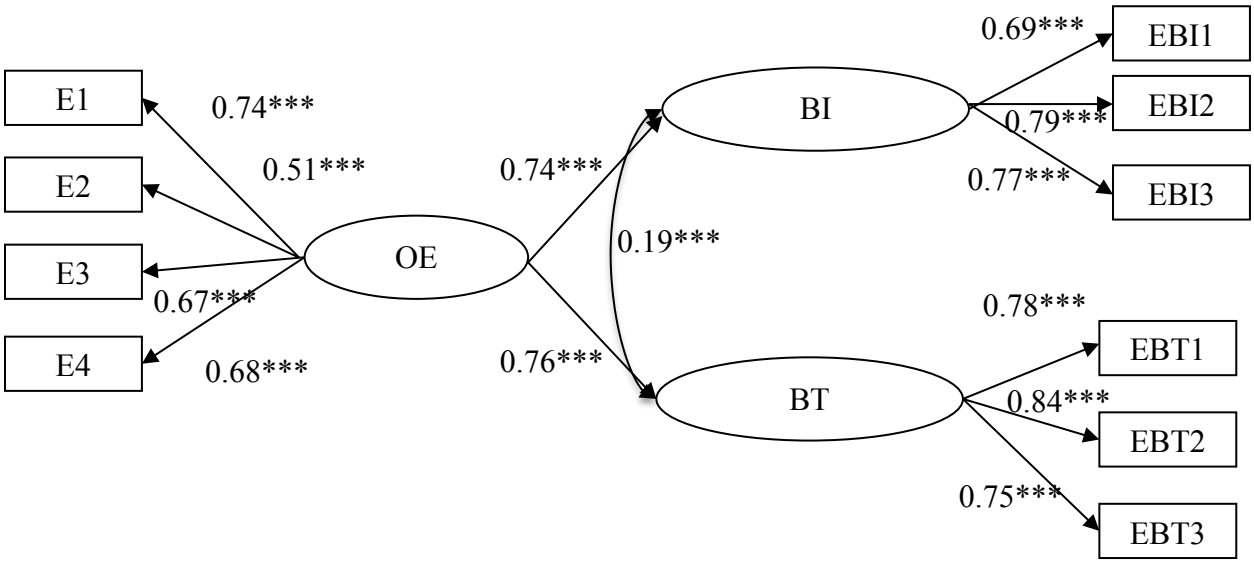


Table 42. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Raise and Team Bonuses: Across-PFP plans

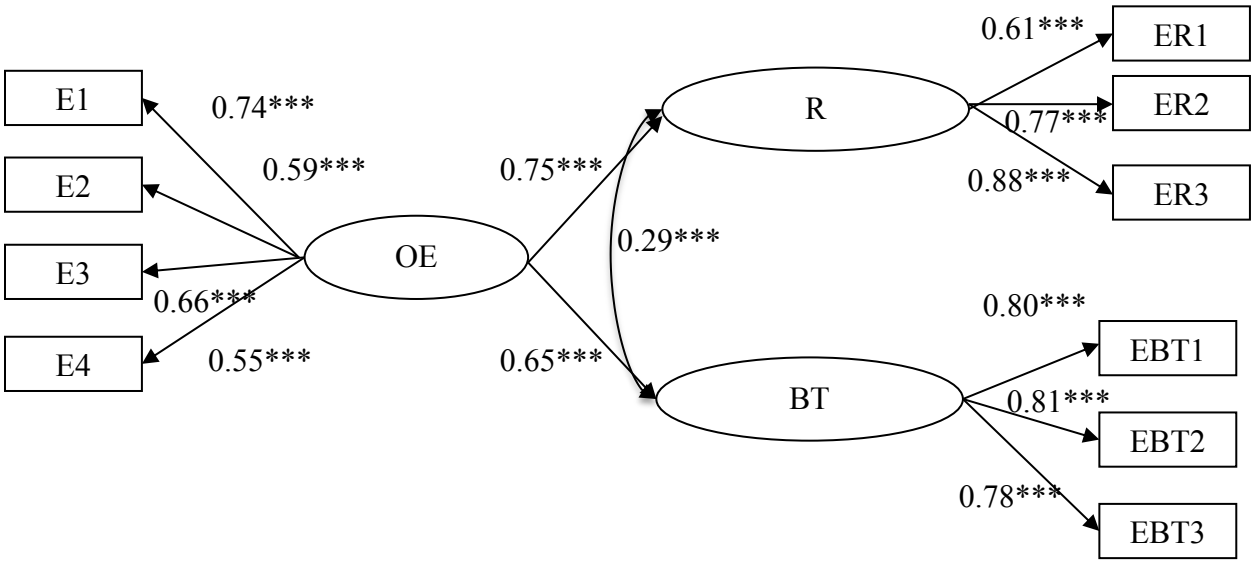


Table 43. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Organizational Bonuses and Team Bonuses: Across-PFP plans

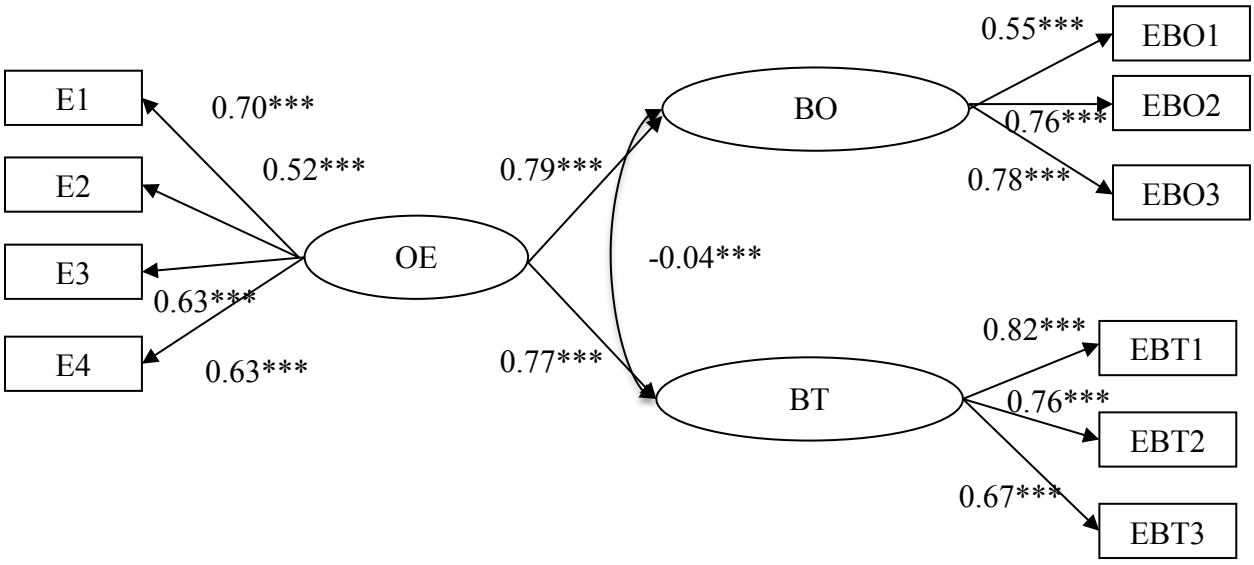


Table 44. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Individual Bonuses and Organizational Bonuses: Across-PFP Plans

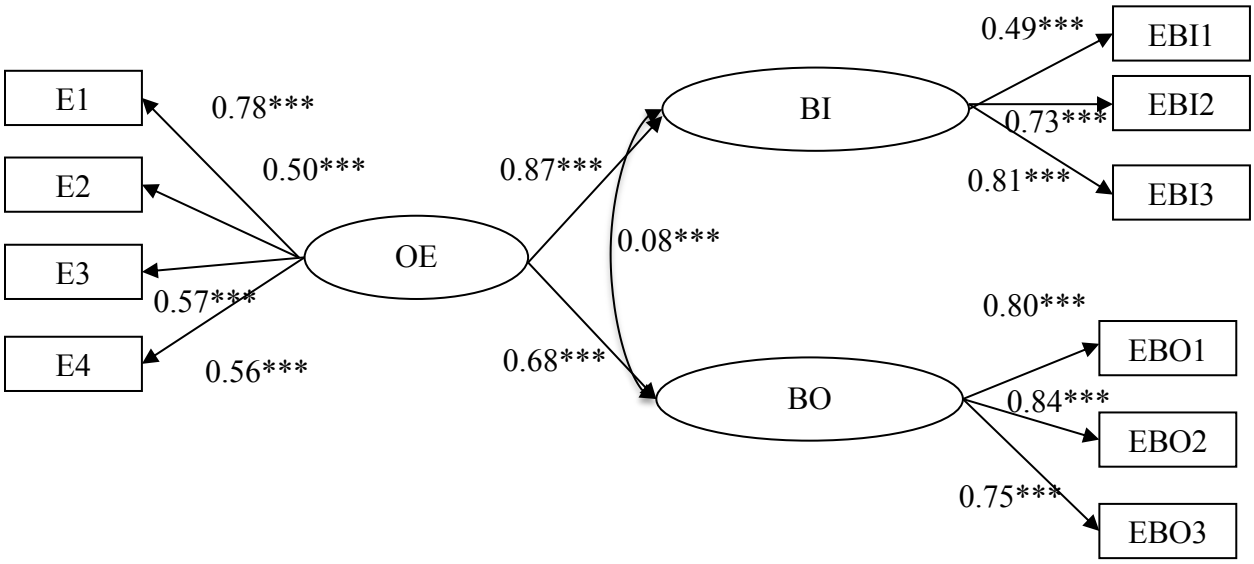


Table 45. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Raises and Organizational Bonuses: Across-PFP Plans

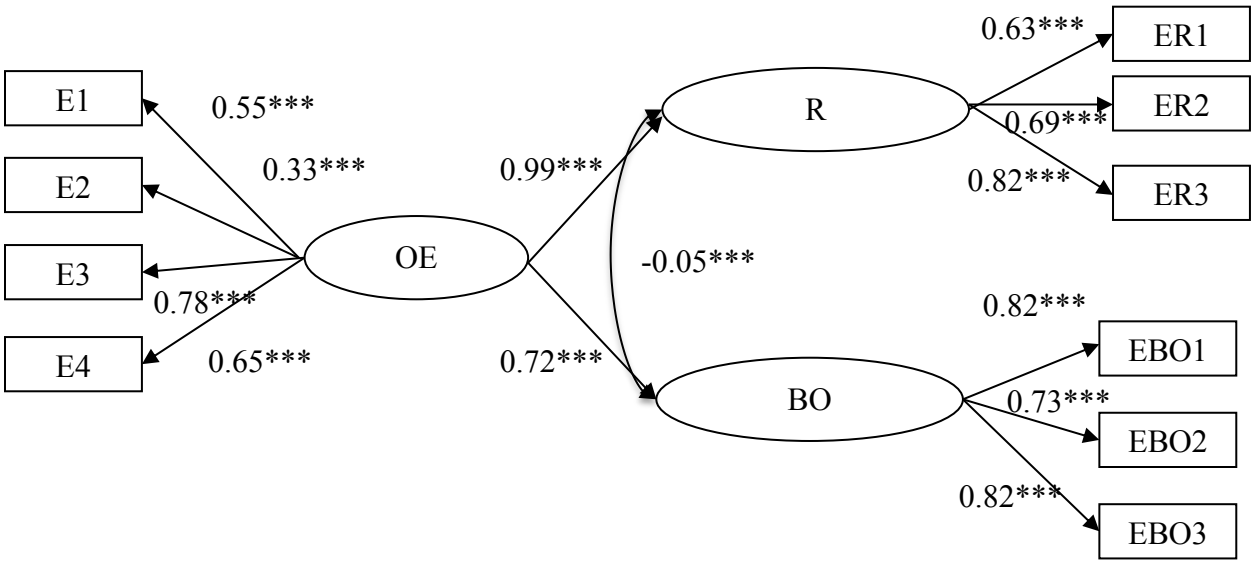


Table 46. CFA Results of Second-Order Confirmatory Factor Analysis for Expectancy Dimension of Raises, Individual Bonuses, and Team Bonuses: Across-PFP Plans

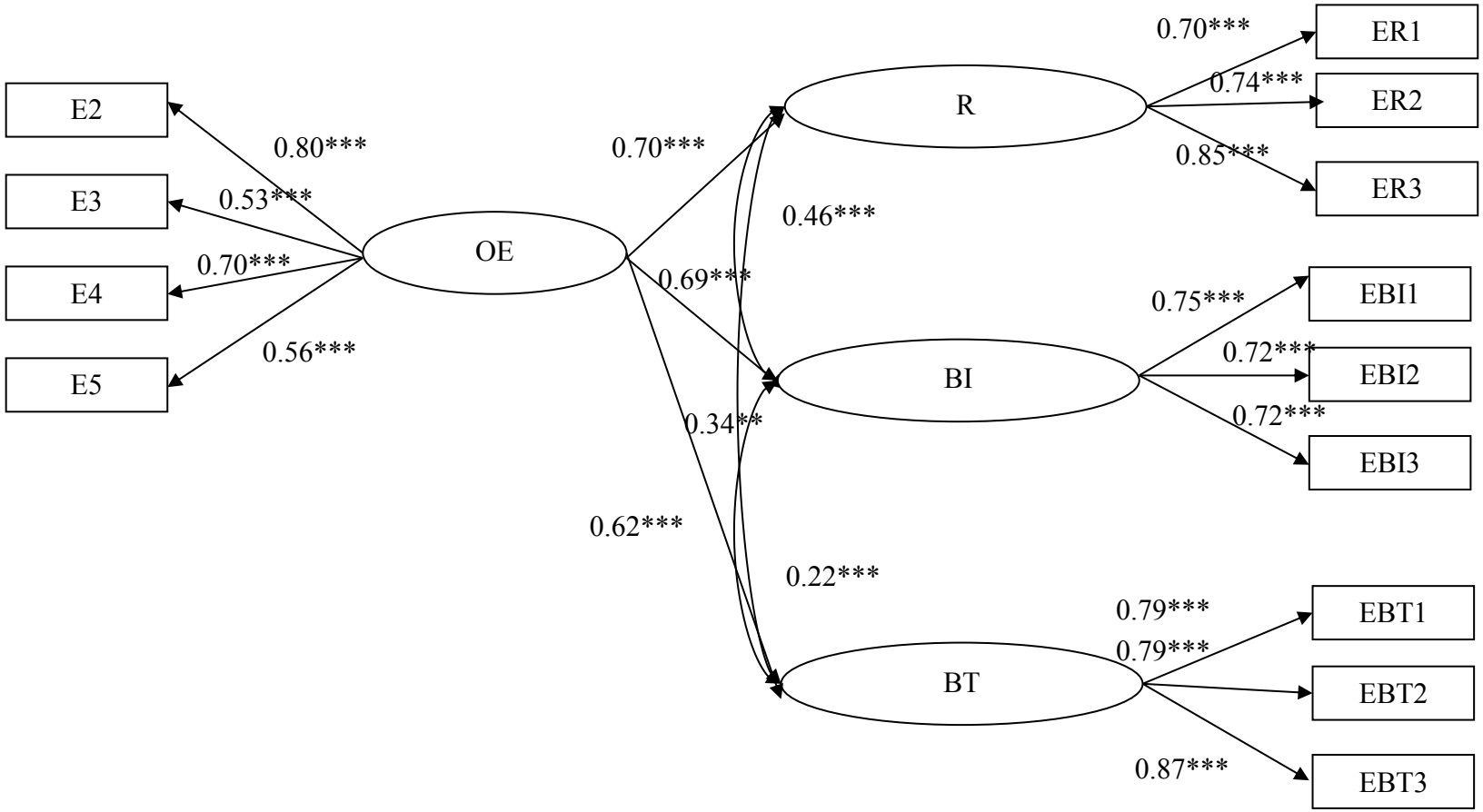


Table 47. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Raises and Individual Bonuses: Across-PFP Plans

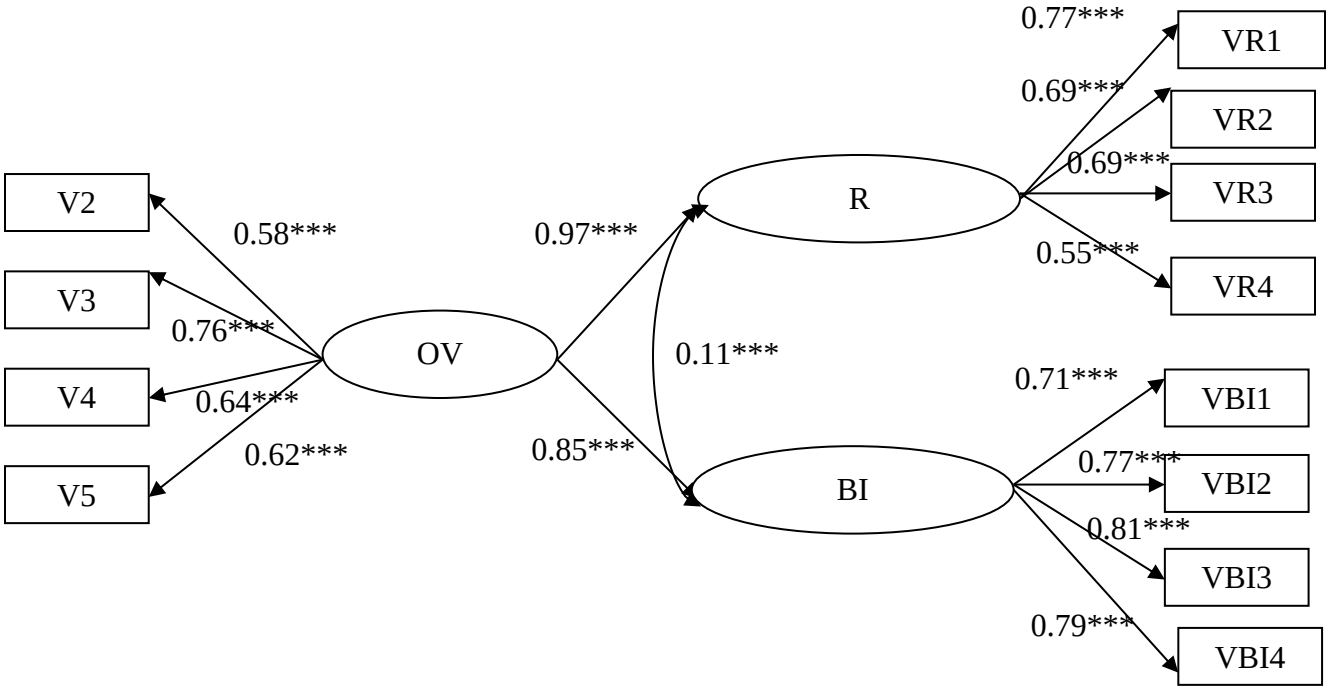


Table 48. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Individual Bonuses and Team Bonuses: Across-PFP Plans

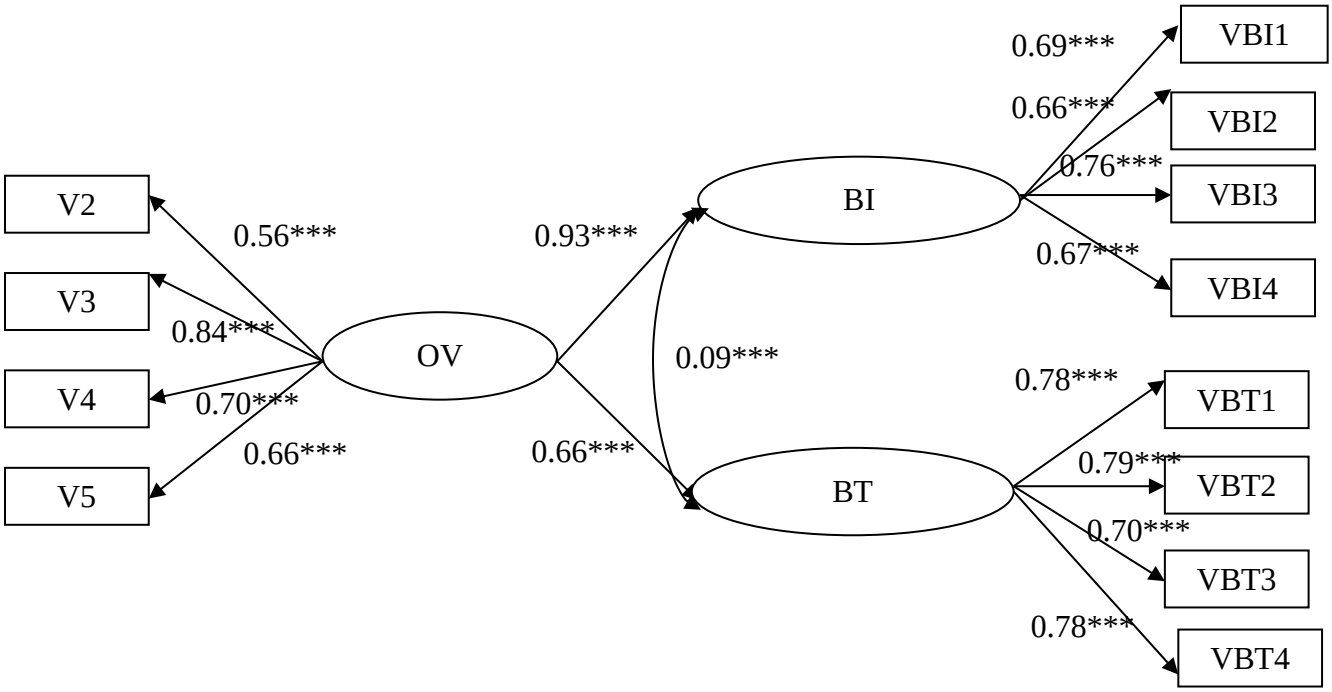


Table 49. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Raises and Team Bonuses: Across-PFP Plans

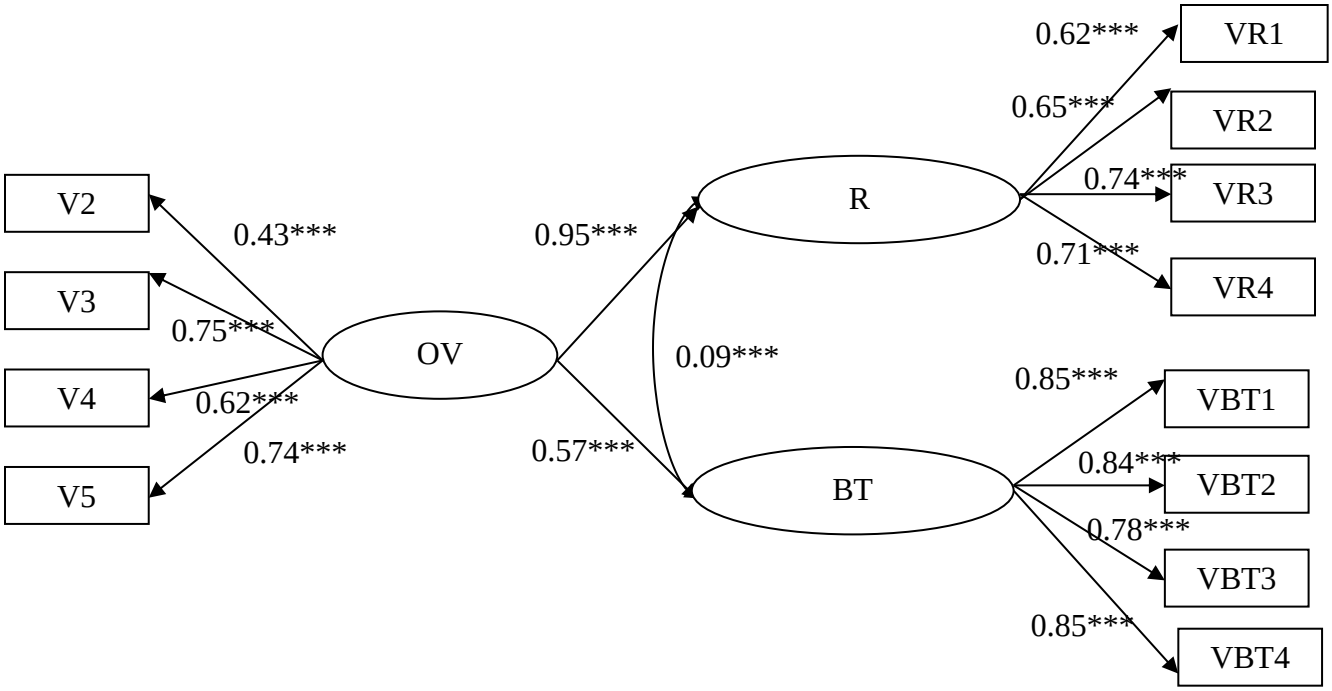


Table 50. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Organizational Bonuses and Team Bonuses: Across-PFP Plans

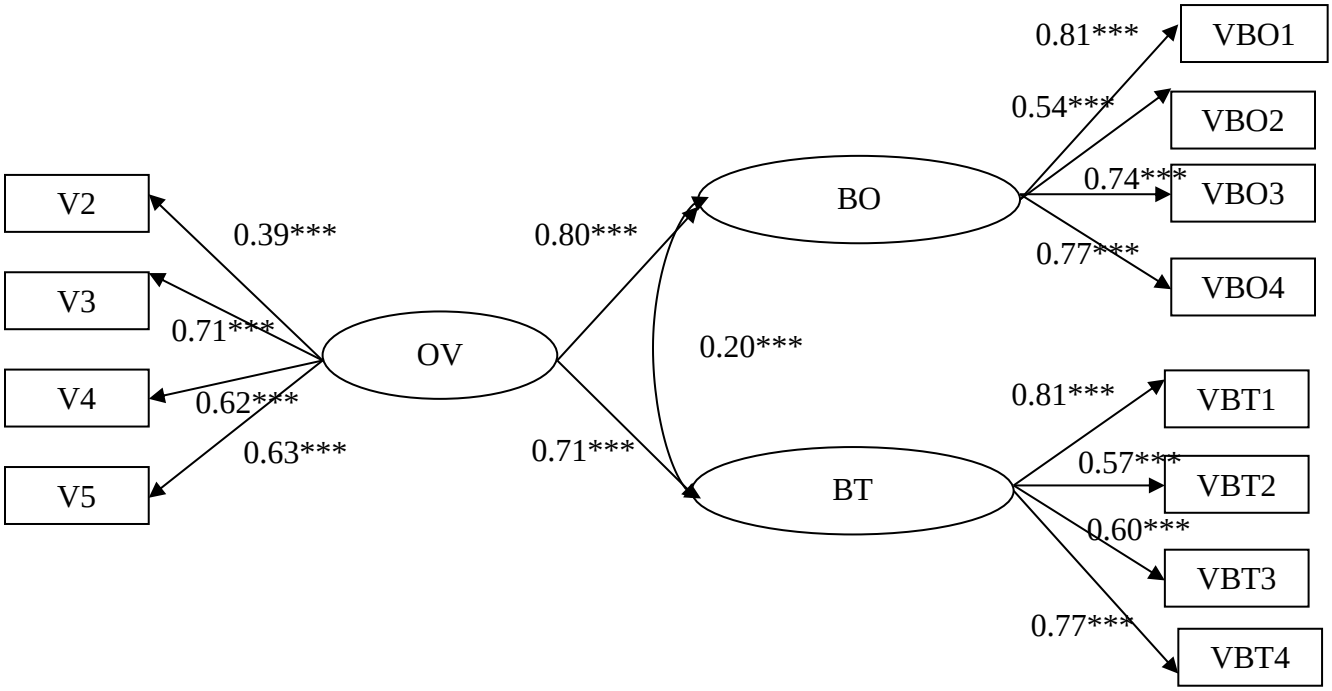


Table 51. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Individual Bonuses and Organizational Bonuses: Across-PFP Plans

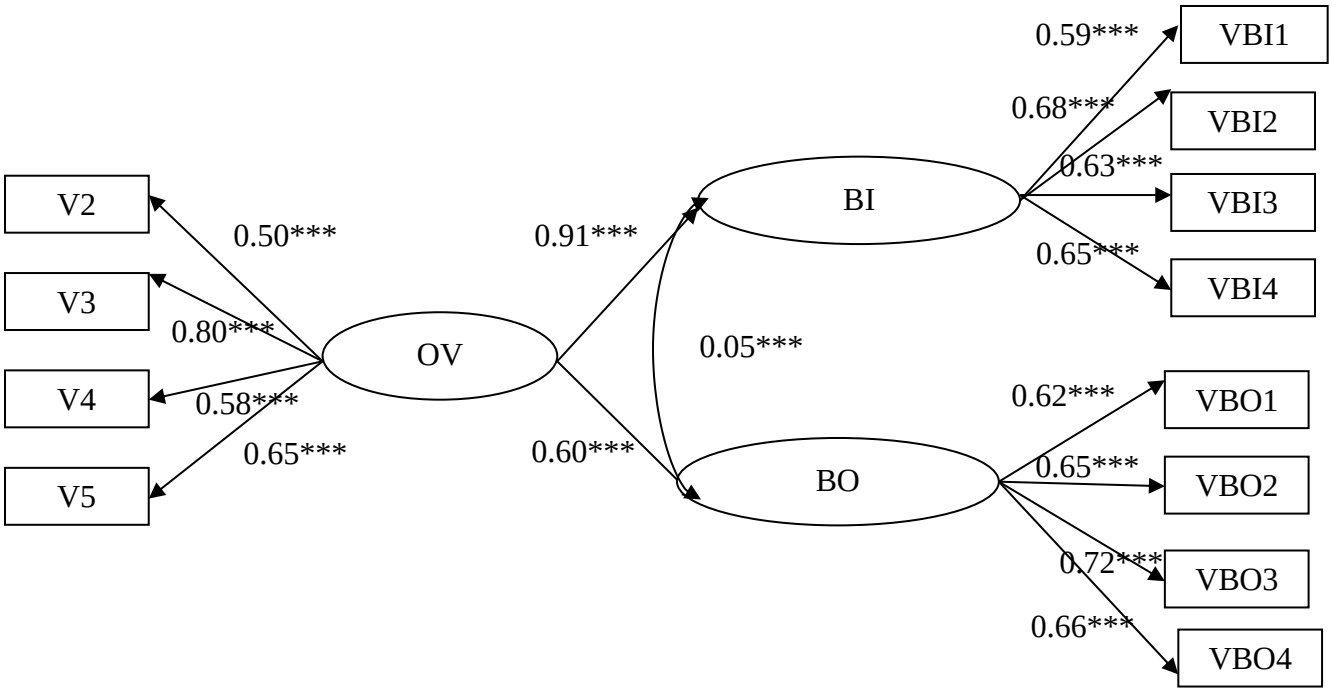


Table 52. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Raises and Organizational Bonuses: Across-PFP Plans

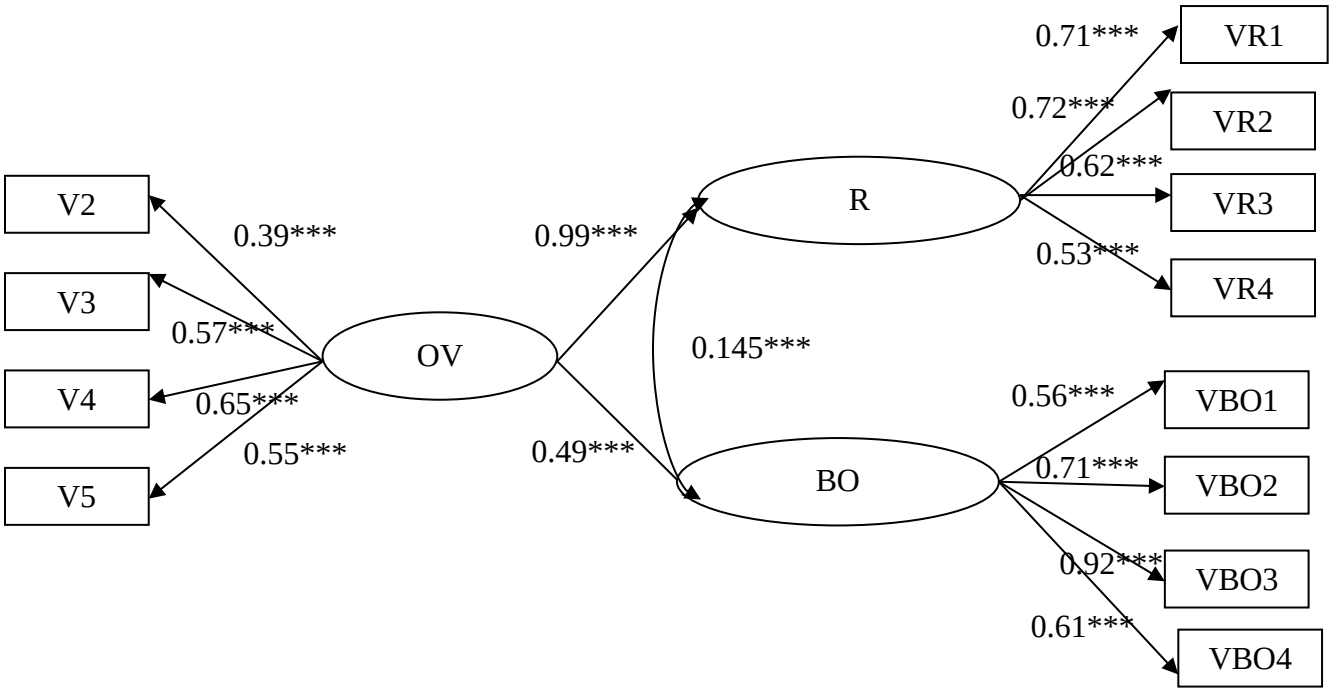


Table 53. CFA Results of Second-Order Confirmatory Factor Analysis for Valence Dimension of Raises, Individual Bonuses, and Team Bonuses: Across-PFP Plans

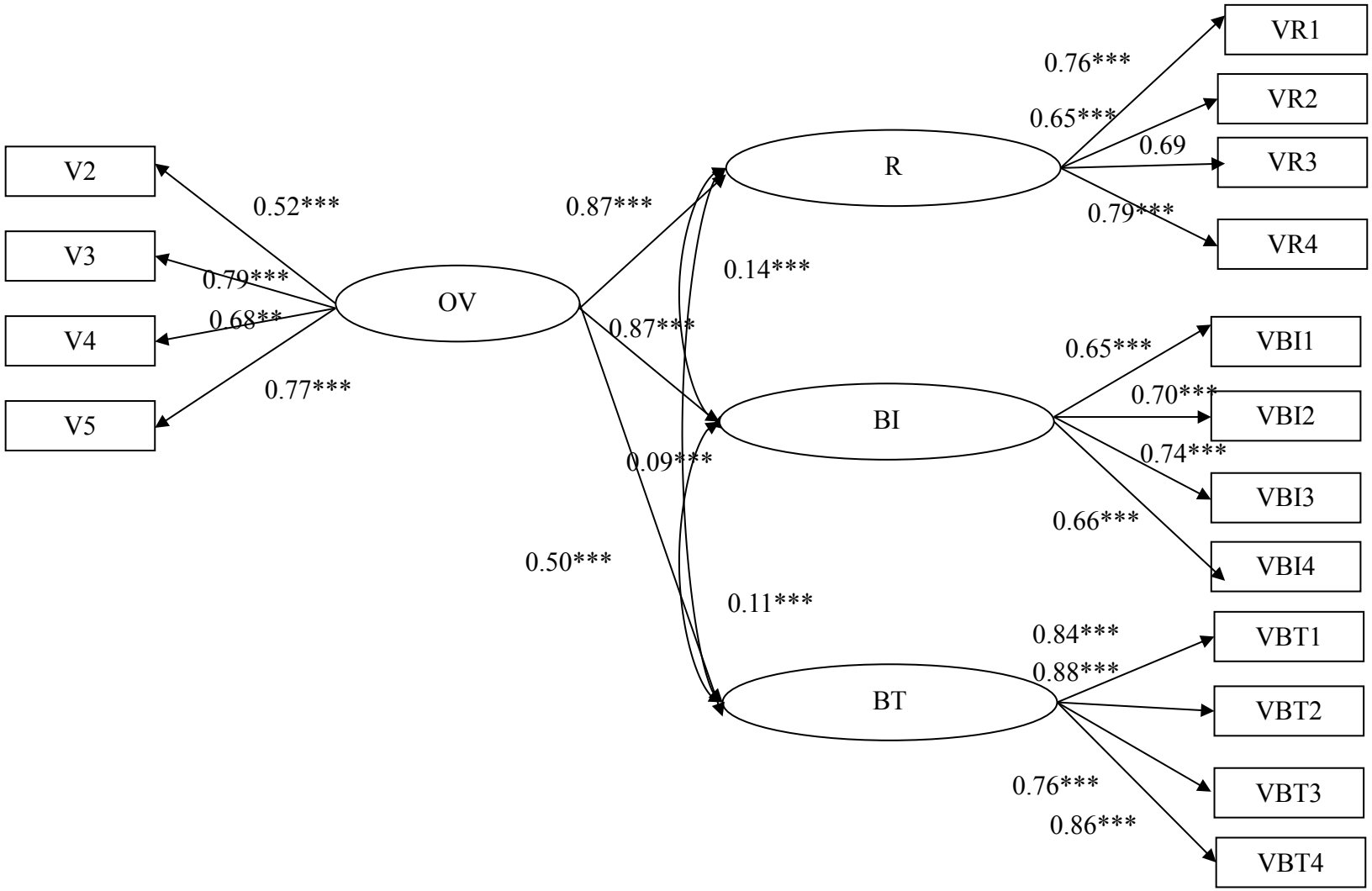


Table 54. Paired *T* Tests Results of Comparisons between Dimensions: Across-PFP Plans

Comparisons	Mean (SD)	df (p-value)
Instrumentality:		
Raises vs. Individual Bonuses	5.33 (1.36) / 5.44 (1.28)	1864.44 (p=0.07)
Individual Bonuses vs. Team Bonuses	5.59 (1.09) / 5.34 (1.17)	1432.12 (p<0.001)
Raises vs. Team Bonuses	5.51 (1.20) / 5.33 (1.25)	1020.38 (p<0.05)
Team Bonuses vs. Organization Bonuses	5.43 (1.13) / 5.31 (1.14)	773.93 (p=0.14)
Individual Bonuses vs. Organization Bonuses	5.45 (1.23) / 5.12 (1.38)	1032.25 (p<0.001)
Raises vs. Organization Bonuses	5.33 (1.28) / 5.07 (1.41)	837.86 (p<0.05)
Expectancy:		
Raises vs. Individual Bonuses	5.57 (1.10) / 5.55 (1.01)	1391.91 (p=0.08)
Individual Bonuses vs. Team Bonuses	5.59 (1.02) / 5.43 (1.08)	1074.95 (p<0.05)
Raises vs. Team Bonuses	5.62 (1.07) / 5.46 (1.10)	765.59 (p<0.05)
Team Bonuses vs. Organization Bonuses	5.55 (1.02) / 5.46 (1.07)	578.69 (p=0.34)
Individual Bonuses vs. Organization Bonuses	5.59 (0.98) / 5.25 (1.23)	745.34 (p<0.001)
Raises vs. Organization Bonuses	5.49 (1.11) / 5.25 (1.27)	622.66 (p<0.01)
Valence:		
Raises vs. Individual Bonuses	5.76 (1.05) / 5.70 (1.04)	1869.99 (p=0.27)
Individual Bonuses vs. Team Bonuses	5.67 (0.93) / 5.51 (1.06)	1414.41 (p<0.01)
Raises vs. Team Bonuses	5.78 (1.05) / 5.49 (1.13)	1016.54 (p<0.001)
Team Bonuses vs. Organization Bonuses	5.60 (0.96) / 5.46 (0.99)	773.08 (p=0.05)
Individual Bonuses vs. Organization Bonuses	5.63 (0.96) / 5.37 (1.15)	1014.84 (p<0.001)
Raises vs. Organization Bonuses	5.69 (1.04) / 5.37 (1.20)	828.49 (p<0.001)

Table 55. Regression Results: Criterion-Related Validity Testing (Overall PFP Perceptions)

	PS	JS	OC	Trust (S)	Trust (M)	TI	Trust (S)	Trust (M)	TI
Intercept	0.39	0.02	0.32	-0.11	-0.04	0.42	-0.08	-0.004	0.25
	(0.11)*	(0.11)	(0.11)*	(0.11)	(0.12)	(0.25) †	(0.11)	(0.12)	(0.25)
PFP Perceptions	0.52	0.30	0.12	0.09	0.04	-0.12	0.14	0.09	-0.39
(Overall)	(0.05)**	(0.05)**	(0.05)*	(0.05)†	(0.06)	(0.12)	(0.05)*	(0.05)†	(0.11)*
Pay Satisfaction		0.05	0.16	0.08	0.09	-0.47			
		(0.04)	(0.04)**	(0.04)*	(0.04)*	(0.09)**			
Job Satisfaction	0.06		0.34	0.22	0.09	-0.51	0.22	0.09	-0.56
	(0.05)		(0.04)**	(0.04)**	(0.05) †	(0.10)**	(0.04)**	(0.05)†	(0.10)**
Org.commitment	0.17	0.30		0.13	0.29	-0.02	0.14	0.31	-0.10
	(0.04)**	(0.04)**		(0.04)*	(0.04)**	(0.09)	(0.04)*	(0.04) **	(0.09)
Trust	0.09	0.20	0.13		0.32	0.19		0.33	0.16
(Supervisor)	(0.04)*	(0.04)**	(0.04)*		(0.04)**	(0.10)*		(0.04) **	(0.10)†
Trust	0.09	0.07	0.26	0.28		0.13	0.29		0.09
(Top management)	(0.04)*	(0.04)†	(0.04)**	(0.04)**		(0.09)	(0.04)**		(0.09)
Turnover Intention	-0.10	-0.09	-0.004	0.04	0.03		0.03	0.02	
	(0.02)**	(0.02)**	(0.02)	(0.02)	(0.02)		(0.02)†	(0.02)	
Gender	0.05	-0.04	-0.02	0.03	0.10	0.04	0.03	0.11	0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)*	(0.07)	(0.03)	(0.03)*	(0.07)
Age	-0.12	-0.002	-0.11	-0.01	0.01	-0.07	-0.02	0.003	-0.02
	(0.04)*	(0.03)	(0.04)*	(0.04)	(0.04)	(0.08)	(0.04)	(0.04)	(0.08)
Dyadic Tenure	-0.001	0.008	-0.04	0.04	0.02	0.04	0.04	0.02	0.04

	(0.02)	(0.01)	(0.02)*	(0.02)*	(0.02)	(0.03)	(0.02)*	(0.02)	(0.04)
Job Tenure	0.02	-0.01	-0.006	-0.005	0.01	0.03	-0.004	0.01	0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)
Org Tenure	-0.01	0.003	0.04	0.009	-0.02	-0.08	0.008	-0.03	-0.08
	(0.01)	(0.01)	(0.01)*	(0.01)	(0.01)*	(0.02)*	(0.01)	(0.01)*	(0.02)*
R-square	0.59	0.62	0.62	0.50	0.49	0.27	0.49	0.49	0.23

Notes: N = 562. † p < .10; * p < .05; ** p < .01. PS: Pay Satisfaction; JS: Job Satisfaction; OC: Affective Organizational Commitment; Trust (S): Trust in supervisor; Trust (M): Trust in Top Management; TI: Turnover Intention.

Table 56. Regression Results: Criterion-Related Validity Testing (Specific Plan PFP Perceptions)

	RS	IBS	TBS	OBS
Intercept	5.27 (0.15)**	5.10 (0.13)**	5.21 (0.13)**	5.21 (0.20)**
Raises Perceptions	0.48 (0.06)**			
Individual Bonuses Perceptions		0.48 (0.06)**		
Team Bonuses Perceptions			0.71 (0.06)**	
Organizational Bonuses Perceptions				0.67 (0.07)**
Pay Satisfaction	0.52 (0.05)**	0.57 (0.05)**	0.34 (0.06)**	0.37 (0.07)**
Job Satisfaction	-0.03 (0.06)	-0.14 (0.06)*	0.02 (0.05)	-0.07 (0.09)
Org.commitment	0.05 (0.06)	-0.04 (0.05)	-0.05 (0.06)	-0.06 (0.09)
Trust (Supervisor)	0.08 (0.05)	0.09 (0.05)†	-0.04 (0.06)	0.01 (0.09)
Trust (Top management)	0.05 (0.05)	0.05 (0.05)	0.12 (0.06)*	0.22 (0.08)*
Turnover Intention	-0.01 (0.03)	-0.06 (0.02)*	0.01 (0.02)	-0.03 (0.04)
Gender	-0.03 (0.04)	-0.002 (0.04)	0.0005 (0.05)	0.08 (0.06)

Age	-0.09 (0.05) †	-0.03 (0.04)	-0.03 (0.05)	-0.12 (0.07) †
Dyadic Tenure	0.03 (0.02)	0.03 (0.02) †	0.001 (0.02)	-0.01 (0.03)
Job Tenure	0.008 (0.02)	0.003 (0.02)	0.007 (0.02)	0.05 (0.03)
Org Tenure	-0.01 (0.01)	-0.01 (0.01)	-0.008 (0.01)	-0.0008 (0.02)
R-square	0.69	0.61	0.72	0.67

Notes: N = 562. † p < .10; * p < .05; ** p < .01. RS: Raise Satisfaction; IBS: Individual Bonus Satisfaction; TBS: Team Bonus Satisfaction; OBS: Organization Bonus Satisfaction.

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